WATER USE AND THE QUEST FOR SUSTAINABLE DEVELOPMENT OF THE EASTERN NILE BASIN: AN INTERNATIONAL LAW ANALYSIS.

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Plagiarism Declaration

I, KIBROME MEKONNEN, do hereby declare that the thesis 'Water use and the Quest for Sustainable Development of the Eastern Nile Basin: an International Law Analysis' is my original work and that it has not been submitted for any degree or examination in any other university. Whenever other sources are used or quoted, they have been duly acknowledged.

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Approved By:

Advisor: Imeru Tamrat (LLM)

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Examiners

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2._____ _____

"Water is sometimes sharp and sometimes strong, sometimes acid and sometimes bitter, sometimes sweet and sometimes thick or thin; sometimes it is seen bringing hurt or pestilence, sometime health giving, sometimes poisonous. It suffers change into as many natures as are the different places through which it passes, and as the mirror changes with the color of its subject, so it alters with the nature of the place, becoming noisome, laxative, astringent, sulfurous, salty, incarnadined, mournful, raging, angry, red, yellow, green, black, blue, greasy, fat or slim. Sometimes it starts a conflagration, sometimes it extinguishes one; is warm and is cold, carries away or sets down, hollows out or builds up, tears or establishes, fills or empties, raises itself or burrows down, speeds or is still; is the cause at times of life or death, or increase or privation, nourishes at times and at others does the contrary; at times has a tang, at times is without savor, sometimes submerging the valleys with great floods. In time and with water, everything changes."

Leonardo da Vinci

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ACRONYM

BCM - Billion Cubic Meters

Bm3 - Billion Meter Cube

CEDAW - Convention for the Elimination of all forms of Discrimination against Women

CFA - Cooperative Framework Agreement

CIDA - Canadian International Development Agency

CRC - Convention on the Right of the Child

DRC - Democratic Republic of the Congo

EIA - Environmental Impact Assessment

EN - East Nile

ENB - East Nile Basin

ENCOM - Eastern Nile Council of Ministers

ENPM - Eastern Nile Planning Model

ENSAP - Eastern Nile Subsidiary Program

ENSAPT - Eastern Nile Subsidiary Program Team

ENTRO - Eastern Nile Technical Regional Office

FPEW - Flood Preparedness and Early Warning

GB - Great Britain

GC - General Comment

GWP- Global Water Partnership

ICCPR - International Covenant on Civil and Political Rights

ICESCR - International Covenant on Economic, Social and Cultural Rights

ICJ - International Court of Justice

IDEN - Integrated Development of the Eastern Nile

IIL - Institute for International Law

ILA - International Law Association

ILC - International Law Commission

IUCN - International Union for the Conservation of Nature

IWC - International Water Courses

IWRM- Integrated Water Resource Management

JMP- Joint Multipurpose Project

NBI - Nile Basin Initiative

NELSAP - Nile Equatorial Lake Subsidiary Program

NRBC - Nile River Basin Commission

PCIJ - Permanent Court of International Justice

SADC - Southern Africa Development Community

SAP - Subsidiary Action Programs

SVP - Shared Vision Program

TAC- Technical Advisory Committee

UDHR - Universal Declaration of Human Rights

UK - United Kingdom

UN - United Nations

UN - United Nations

UN CSD - United Nations Commission for Sustainable Development

UNCED - United Nations Conference on Environment and Development

UNDP - United Nation Development Program

UNECE - United Nations Economic Commission for Europe

UNEP - United Nations Environment Program

UNFCCC - United Nations Framework Convention on Climate Change

UNGA - United Nations General Assembly

USA - United States of America

WB - World Bank

WCS - World Conservation Strategy

WHO - World Health Organization

WSSD - World Summit on Sustainable Development

WTO - World Trade Organization

ABSTRACT

Water is an irreplaceable necessity to sustain life on earth. Its availability both in good quality and enough quantity is under threat as the world is believed to be facing water crisis. This paper dwells on the efforts in the Eastern Nile Basin to bring about sustainable development of the water resource. The Nile is one of the longest rivers of the world shared by 10 African nations, most of which are among the world's poorest. The basin is home to more than 160 million people currently, a figure expected to double in the next 25 years. The rise in population number increases the demand for water for electric generation, agriculture and household uses putting the water resource under an even more stress. Environmental degradation, such as soil erosion and water pollution, are growing problems throughout the region, affecting agricultural productivity and exposing the population to water born diseases. At the face of such threat the isolated and uncoordinated national development plans in the basin are presenting a challenge for the efficient management of the river Nile.

The three main actors in the ENB are Ethiopia, Sudan and Egypt. The water use prevailing in the basin currently is a lopsided one favoring mainly Egypt and to some extent Sudan. This inequitable use coupled with pressure from population growth, climate change and environmental degradation are presenting a formidable challenge to the sustainable use of the river Nile. Therefore, the integrated management of the river in a manner that takes in to consideration both the social and economic interests of the basin states over the water and the need to protect and preserve the water resource and its ecosystem has become an imperative.

These countries, together with the rest basin states have resorted to a basin wide cooperation under the aegis of the NBI. The ENSAP, one of the subsidiary action programs of the NBI, has identified certain projects for the integrated development of the East Nile Basin, which is comprised of seven projects. They have in addition come up with a Joint Multipurpose Project that aim at facilitating the sustainable development and management of the Eastern Nile shared water resources to provide a range of transformational development benefits across sectors and countries. These projects will have significant effect both in promoting sustainable management of the water resource and steering cooperation in the basin. Parallel to these efforts the basin states as a whole have been negotiating a new cooperative framework which

culminated in the opening for signature of the CFA, which among other things includes several principles and rules that are essential for the sustainable management of an international watercourse, such as the Nile.

Sustainable development has become a familiar concept in international law. However there still is disagreement among scholars as to its definition and status as a principle of international law. Therefore the second chapter tries to look in to the development meaning and status of sustainable development under general international law and its place within international water law. In this part discussion on water use is made in line with the three pillars of sustainable development.

The third chapter tries to give a general background to the ENB, focusing on the cooperative history in the basin, the bilateral agreements and the unsustainable manner of utilization they have established, geopolitics and the interests the three states have on the cooperative management and utilization of the river.

The fourth chapter discusses current developments in the ENB, which will have significant effect on the sustainable development of the river. These efforts range from investment programs to negotiating a new legal regime and institutional mechanism that will play major role in the cooperative and sustainable management of the river. This part also looks in to the role of third parties, especially that of the WB, in assisting and facilitating the ongoing cooperation efforts among the basin states. At the end of this chapter the way forward is looked in to, where the challenges and prospects of sustainable management in the basin are presented.

Chapter five brings the paper to the end. In here concluding remarks are made and recommendations forwarded in the hope that they might contribute to the sustainable development of the Nile in the ENB for the benefit of the millions within the riparian states and the many more generations to come.

CHAPTER ONE

INTRODUCTION

1.1. INTRODUCTION

Water is a basic necessity of all life on earth. That is why some went on to say war over water resource is inevitable.[1] Though war over water is unlikely, as it is a scarcely available resource to take the risk of fighting over it, it definitely is a source of serious controversies and tension. The scenario is even worse in cases where there is conflicting interest between sectoral users and the issue concerns waters shared by more than one nation.[2] The Nile basin is no exception to this character and had gone through different phases of history where it has been and still is the point of contention among basin states.

The Nile, the world's longest river, is shared among ten African states; Ethiopia, Eritrea, Kenya, Burundi, Rwanda, Uganda, Tanzania, Democratic Republic of Congo, the Sudan and Egypt. Most of the population in the Nile basin live in rural areas and rely on agriculture as their means of living.[3] The Nile has two major head water basins; the White Nile with the Equatorial lakes and the Eastern Nile with numerous tributaries and the head water of Lake Tana.[4] The Eastern Nile comprises of upstream Ethiopia with the Abbay/Blue Nile, Tekeze/Atbara and the Baro Akobo Sobat sub systems on one hand and downstream Sudan and Egypt on the other.[5] Eritrea is as well within the ENB. However this study focuses on the three major actors in the basin: Egypt, Ethiopia and Sudan.

The Abbay/Blue Nile River is one of the major contributor to the waters of the main Nile, contributing 52.62 bm^3 to the total annual volume measured at Aswan high dam. The river and its tributaries drain a large proportion of the central and western and south western highlands of Ethiopia before dropping to the plains of Sudan, and joins with the White Nile in Khartoum.[6]

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[1] Boutros Boutros-Ghali, former secretary general of the United Nation from 1992 to 1996, Ones said that "The next war will be over water, not politics."
[2] Hirji and Grey, "Managing International Waters in Africa: Process and Progress." 77-100 pp 77
[3] Awulachew, McCartney, Steenhuis, and Ahmed, "A review of hydrology." pp 4
[4] Arsano, "Ethiopia and the Nile." Pp 82

[5] Arsano, "Ethiopia and the Nile." Pp 82

[6] Sutcliffe and Parks, *The Hydrology of the Nile*, pp 127-141

The utilization of the Nile river water by one basin state will attract the attention of the others. Therefore it is important to look in to the interests of the different basin states in participating through a basin wide cooperation.

Ethiopia's interest is to use the waters of the Nile in its fight against poverty and to enhance long term economic development. Ethiopia has an estimated irrigation potential of 2.2 million ha in the Nile basin.[7] It has plans to utilize the water resource for both small and large scale irrigations as well as for hydroelectric power generation. Soil conservation and watershed management are viewed as important aspects of water resource development. However, as poverty stricken country that it is, Ethiopia is concerned that, downstream countries might prevent implementation of its development projects by blocking investments from international institutions and funding agencies. Therefore, to avoid this concern Ethiopia is interested in the establishment of an institutional and legal frame work for the equitable and reasonable utilization of the Nile water.[8]

Sudan is eager to further utilize the waters of the Nile to exploit its agriculture potential and expand hydroelectric power generation. Further, as it is threatened by recurrent flooding and drought it is interested in international cooperation to forecast and mitigate floods and drought.[9] Another problem Sudan would like to avoid through cooperation is siltation, as a result of soil erosion from the highlands of Ethiopia and Sudan, creating challenges for irrigation and hydroelectric power.[10]

Egypt on its part is mainly concerned with assuring that the upstream states accept its historic rights to the amount of water it has been using since the Aswan High Dam was built and increase water use to meet the ever increasing demand by expanding irrigated agriculture. As the life of Egypt and Egyptians depend on the Nile waters, the source of which lies outside of Egypt, the country's concern with regard to the Nile are both a matter of national security and a life and death issue.[11]

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[7] United Nations Economic Commission for Africa, "Water Development in Africa." pp 20

[8] Arsano and Tamrat, "Ethiopia and the Eastern Nile." pp 15–27

[9] Amer, Arsano, El-Battahani, Hamad, Hefny and Tamrat, "Sustainable development and international cooperation." pp 3-14

[10] Hamad and El-Battahani, "Sudan and the Nile Basin." pp 28-41

[11] Hefny and Amer, "Egypt and the Nile Basin." pp 42-50

The other basin states in addition to several issues peculiar to their domestic situations, are seeking to harness their streams and lakes to achieve self-sufficiency in food and energy production.

The world is facing water crisis as the demand for water is alarmingly increasing. The global water consumption increased six-fold between 1900 and 2000 mainly because of population growth and rising demand per person due to such causes as irrigation development, industrialization and increasing use by individuals as incomes rise.[12] The problem is not only of quantity but also of quality as the scarcely available water faces threat of degradation. About one-third of the world's population lives in countries considered as being 'water stressed', and more than 1 billion people lack access to safe drinking water, and 3 billion lack adequate sanitation.[13] It is stated in the declaration of the second world water forum that;

> Water is vital for the life and health of people and ecosystems and a basic requirement for the development of countries, but around the world women, men and children lack access to adequate and safe water to meet their most basic needs, Water resources and the related ecosystems that provide and sustain them, are under threat from pollution, unsustainable use, land-use changes, climate change and many other forces.[14]

The Nile Basin is no exception to this threat. Population growth, industrialization and diversion of water by dams and canals for social and economic benefits, are adversely affecting both the quality and quantity of the fresh water available.[15] It is believed that such unsustainable manner of consumption should not continue if the millions of poor who rely on the waters of the Nile for their livelihood are going to use the water to change and sustain their life at present and the future.

The riparian states in the Nile basin in general have come to a common understanding that the management of the Nile water needs cooperation. However the basis of cooperation has remained controversial and unsettled. Still the stand of the basin nations is divided on the issue of the need for a new legal and institutional regime. Egypt and Sudan has always held the position that any new legal and institutional regime must recognize the right they have acquired

[12] Department for International Development-UK, "Addressing the Water Crisis." pp 11
[13] Cotter, "International Environmental Law: The Global Village." 1-10 Pp 6
[14] Second World Water Forum, Declaration of the Hague, Ministerial Declaration of the Hague on water security in the 21st century Para 1
[15] Wiebe, "Potential for Conflict and Cooperation." pp 736

through prior agreements. While Ethiopia and the rest of the riparian states reject this position on several grounds. Most of the then British colonies reject to be bound by colonial treaties, while Ethiopia makes it clear that there is no ground where by it would be bound by agreements it wasn't party to and has always opposed against.

1.2. STATEMENT OF THE PROBLEM

It has been said time and again that most of the riparian states in the Nile basin are among the poorest in the world. In the effort to alleviate poverty by providing enhanced food, power and water security, and associated employment opportunities, the sustainable development of the Nile water is a necessity.[16]

Sustainable development has become a familiar concept in international law. The international law on sustainable development emerged from international environmental law and the international law on development.

It is also brought in to the use of shared water resources. In the Gabcíkovo Nagymaros case, the main ICJ case on non-navigational uses of freshwater resources, the ICJ acknowledged the relevance of sustainable development in international law. Several global policy documents identify and promote the concept of sustainable development, most of which provide that sustainable development is integrally linked with the pursuit of an integrated water resource management strategy.[17] Integrated water resource management strategy requires water resources to be managed as finite and vulnerable resources, an economic good and natural resources.[18] Such integration occurs at three levels; interrelated fresh water bodies should be managed as a unit; there should be multisectoral integration; and multi interest in the use of water resources must be given due consideration.[19]

In the integrated management of water resources it is inevitable that there will be competing claims both among watercourse states and the different uses of the water resource. The utilization of the Nile River and the tension over water allocation/utilization is the ideal

[16] Metawie, "History of co-operation in the Nile." pp 47 - 63

[17] Wouters and Rieu-Clarke. "The Role of International Water Law."

[18] The Dublin Statement on Water and Sustainable Development, Adopted January 31, 1992 in Dublin, Ireland. International Conference on Water and the Environment accessed at http://www.un-documents.net/h2o-dub.htm last visited 12/31/10.

[19] Wouters and Rieu-Clarke, "the Role of International Water Law."

scenario of such kind. Therefore it is important to discuss the situation in light of the following questions;

- Does international water law promote the goals of sustainable development?
- How can competing claims between the riparian states be adequately reconciled and sustainable development achieved?

1.3. OBJECTIVE OF THE STUDY

This study has a general and specific objective. The general objective is to make an international law analysis of the efforts being made to sustainably develop the Nile River. The study will specifically dwell on the following issues in the analysis of the quest for sustainable development of the Nile River in the Eastern Nile Basin;

- Look in to sustainable development in the context of international water law,
- Discuss the different uses of water in light of the human right to water, ecosystem protection and development,
- Look in to the role of international water law in promoting sustainable development in the sub basin,
- Examine how competing interests of riparian states be reconciled, and
- Examine the current legal and institutional regime in the Eastern Nile Basin in line with the effort to bring about sustainable socio economic development in the region.

1.4. SIGNIFICANCE OF THE STUDY

The Nile basin is one of international watercourses where there is water scarcity and the demand for water is increasing alarmingly. Therefore it is imperative that the water resources be managed in a sustainable manner. This study in one way serves as an indication as to the nature of water management in the sub basin, in addition it will discuss how the water resource can be sustainably developed. It will also indicate the role of international water law in promoting sustainable development in the region and will show how sustainable development can be used in adequately reconciling competing interests of riparian states.

1.5. SCOPE and METHODOLOGY

The study is primarily aimed at analyzing issues related to water use and sustainable development of the Nile River in the Eastern Nile Basin, focus being mainly on current

developments under the ENSAP, and on the search for a new legal and institutional mechanism for use and management of the River.

The research basically will be conducted based on literature review. Different books articles, and publications currently on the hand of the researcher and available at different libraries have been consulted. Since it is an international law analysis a wide range of sources will be taken in to consideration ranging from soft laws, decisions of international nature, customary international law, and treaty laws. Information on projects being undertaken in the Eastern Nile Basin is accessed from official websites of the NBI and ENSAP. The rule of citation followed is Chicago Citations, and particularly the combination of short notes in the footnotes and full information about the source used in the bibliography.

1.6. RESEARCH HYPOTHESIS

The Nile basin is characterized by the poverty of the basin states and the use of the water resource has become of a paramount importance more than any time before. However unilateral development of the water would lead to tension and dispute in the region, a region which has always been a center of controversy. In addition to the issue of water use by the riparian states another pressing tension lies in the need to conserve the water resource for both present and future generations.

Therefore it has become imperative that basin states jointly work towards the sustainable development of the internationally shared Nile River. There are a range of issues that need to be considered in the sustainable development of an international river. These issues range from reconciling conflicting interests of riparian states, to the protection of the water resource and its ecosystem. The riparian states need to work towards realizing the sustainable development of the Nile River in order to adequately respond to the different and competing interests they have.

CHAPTER TWO

INTERNATIONAL LAW, WATER USE AND SUSTAINABLE DEVELOPMENT

2.1. PRINCIPLES OF INTERNATIONAL WATER LAW ON THE NON NAVIGATIONAL USES OF INTERNATIONAL WATER COURSES

Water is one of the most significant elements for the existence of all kinds of life. Most of early civilizations of the world emerged on the banks of different rivers. It is still as important, if not more, as it was by then to the present world. Given rapid growth in population number and scarcity of water, allocating and managing water resources has become unavoidable necessity. In the bid to realize such allocation different principles have been forwarded at different times. Herein under some of the principles of international water law are discussed; these are the principles of (1) Absolute Territorial Sovereignty (2) Absolute Territorial Integrity (3) Community of Interest, (4) Equitable and Reasonable Utilization,[20] and (5) Integrated Water Resource Management.

2.1.1. Absolute Territorial Sovereignty

This principle states that a state is fully free to use the water flowing through its territory as it deems necessary without the need to take in to account restrictions or prohibitions on such use.[21] This principle favors upstream countries as it give them the absolute right to divert and use the river in any way they find appropriate without liability to the state downstream.

This doctrine relies on the absolute nature of sovereignty as koukkanen stated "any attempt to settle a dispute by a third party in an adjudicative context would be impossible if the principle of absolute sovereignty would form the applicable law."[22]

[20] Some writers treat principles of equitable and reasonable utilization and the no harm rule on their own how ever in this work they are discussed under the principle of reasonable and equitable utilization.

[21] Upreti, *International Watercourse Law*, Pp 103

[22] Kuokkanen, *International Law and the Environment*, Pp 22

This is because the absolute nature of sovereignty on one hand justifies a states right to use its resources without limitations and on the other hand protects a state against any harm from another state there by creating a conflict between two sovereignties.[23] As the principle fails to provide any solution to the dispute it is regarded as a primitive doctrine.[24] And as McCaffrey held, where "the subject matter is something that moves from one state to another, from underground to surface, from surface to atmosphere, and so on in the hydrologic cycle, the notion that states have sovereignty over it seems a far from perfect match."[25]

2.1.2. Absolute Territorial Integrity.

This principle can be taken as one which is the exact opposite of the principle of absolute territorial sovereignty. It advocates the right of downstream state whereby they may have a veto power on how the upstream state uses international watercourses.[26] This is a principle that most downstream states rely in asserting their right to use IWC and make sure that, upper riparian states can do nothing that affects the quantity and quality of water that flows down the water courses.[27]

This principle as well suffers from the absolute nature of sovereignty, therefore it can agreeably be said that the principle of Absolute Territorial Integrity is as primitive as the doctrine of Absolute Territorial Sovereignty, as it advocates for veto power of a downstream state over development decisions of upstream states. Therefore reliance on either of the above principles will hinder cooperative and sustainable management of an international river as it gives the right to decide on development programs and manners utilization over such rivers solely to one riparian.

2.1.3. Community of Interest

This principle advocates for the collective rights to river waters and international drainage basins by the riparian states. It is a concept derived from the hydrological unity of a

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[23] Kuokkanen, *International Law and the Environment*, Pp 21

[24] Kuokkanen, *International Law and the Environment*, Pp 22
[25] McCaffrey, "Current Developments" pp 286
[26] Upreti, *International Watercourse Law*, Pp 104
[27] Dellapenna, "customary international law" Pp 269

river basin, which renders the position of sovereignty less important in relation to international watercourses.[28] As back as 1920 the Permanent Court of International Justice (PCIJ), the then world court, stated in its decision in the river Oder case as follows:

> "The *community of interest* in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian states in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian state in relation to others."[29]

The facts of the case limit the application of the principle to the navigational uses of international water courses. However many are of the view that it has been a precursor of the principle of equitable utilization of international water courses, which went on to become one of the major principles under the 1997 UN Water Course Convention.[30]

2.1.4. Equitable and Reasonable Utilization

The principle of equitable and reasonable utilization is embodied in the idea of a Limited Territorial Sovereignty, where every riparian state has a right to use the waters of international rivers but is under corresponding duty to ensure that such use does not harm other riparian states.[31] The principle of equitable and reasonable utilization has been articulated in early judicial decisions regarding the sharing of fresh water resources[32] and it is regarded by many as to constitute the main principle of international water course law and as one that has wide acceptance.[33]

It is important to look in to the relationship between the principles of Equitable and Reasonable utilization and the "No Harm Rule" as it has been one of the major areas of the debate on international water law, for the last few decades. The positions have been divided in

[28] Louka, *International Environmental Law*, pp 173
[29] River Oder commission Case p 27
[30] Kuokkanen, *International Law and the Environment*, Pp 322, Upreti, *International Watercourse Law*, Pp 46, McCaffrey, *law of international watercourses*, pp 389
[31] Salman, "Perspectives on International Water Law" pp 53
[32] Louka, *International Environmental Law*, pp 53
[33] Upreti, *International Watercourse Law*, Pp 108, Sands, *principles of international Environmental law*, pp 462, Kliot, *Water Resources and Conflict* Pp 5

giving priority to one principle over the other, in the works of the Institute for International Law **(**IIL) and the International Law Association (ILA).[34]

The resolutions of the IIL emphasize on the obligation not to cause significant harm to other riparian states[35] they have adopted resolutions ranging from those established absolute prohibition against activities that may result in injury to other riparian, the 1911 Madrid Declaration, to the 1961 Salzburg Resolution which relaxed the absolute prohibition provided under the Madrid Declaration.[36] Generally the resolutions adopted by the IIL give emphasis to the No Harm Rule, but also acknowledging the right of a riparian state to use the waters of an international watercourse.

The works of the ILA however differ from that of the IIL as they emphasize on the principle of Reasonable and Equitable Utilization of shared water resources. This is well evidenced under article IV and V of the 1966 Helsinki rules[37] which sets out the rules of equitable and reasonable apportionment and some of the geographical, hydrological, climatic, historical, social, economic and technical elements to be considered in determining equitable and reasonable apportionment respectively.[38]

The Helsinki rules make no mention of the "No Harm Rule" except just as an element among other elements to be considered in measuring equitable and reasonable utilization.[39] Since the Helsinki rules lack binding nature, the United Nations General Assembly (UNGA) requested the International Law Commission (ILC) to come up with a set of draft articles to govern the non navigational uses of international water courses which was approved by UNGA on 25 may 1997.[40]

The 1997 watercourses convention has included both principles. The relationship between the two has been a point of controversy during the drafting process. Cafflish states

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[34] The IIL and ILA are scholarly nongovernmental organizations established in 1873 and working on various fields of international law. They adopt resolutions and rules which aim at codifying international law but have no formal standing and legally binding nature.

[35] Salman, "Perspectives on International Water Law" pp 628

[36] Salman, "Perspectives on International Water Law" pp 628

[37] Helsinki rules on the uses of waters of international rivers, Adopted by the ILA at its 52nd conference held at Helsinki in1966, full text reprinted in Appendix A in Kliot, Water Resources and Conflict

[38] The works of the two institutions can be found reprinted in Food and Agriculture Organization of the United Nations, *Sources of International Water Law*, chapter 5

[39]Caflisch "Regulation of the Uses of International Watercourses," 3-16 pp 8-9

[40] Dellapenna, "customary international law" Pp 7

that the no harm rule is relevant for two aspects of the law of IWC; the allocation and utilization of such water resources and the protection of their environment,[41] but finds the rule of little use concerning the first aspect and states ;[42]

> "Concerning the first aspect….the rule is of little use today, most international water ways are at present fully exploited or even over used. Accordingly the issue is no longer one of not causing harm, in situations of full or over use, every new or increased activity is harmful for existing utilization, but one of apportioning resources among competing uses and users."

The massage here is that the positive equitable and reasonable utilizations rule would be preferable than a negative "no harm" rule given the current world wide water scarcity and tense conflict between different users and uses.

The two principles have both been included in 1997 UN watercourse Convention[43] under articles 5, 6 and 7. Article 5 of the convention provides the principle of equitable and reasonable utilization. It provides that watercourse states shall utilize an international water course in an equitable and reasonable manner which requires the optimal and sustainable utilization of the watercourses and its benefits consistent with adequate protection of the watercourse.[44] Article 6 follows providing non-exhaustive list of circumstances to be taken in to consideration in determining whether certain utilization is equitable and reasonable.[45] In this provision there is no indication as to what weight is to be attached to these different circumstances and how to reconcile when ever conflict arises. This seems to have been left to be decided depending on the facts involved in a case by case basis.

The obligation not to cause significant harm is embraced under article 7, perhaps the most controversial provision of the entire convention. Agreement as to its position in relation to the equitable and reasonable utilization principle has been facing impasses due to different positions held by different rapporteurs, some equating the two principles while others subordinate one principle to the other.[46] The tension is clear as it is unlikely that both can be

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[41] Caflisch "Regulation of the Uses of International Watercourses" 3-16 pp 12
[42] Caflisch "Regulation of the Uses of International Watercourses" 3-16 pp 12

[43] The 1997 United Nations Conventions on the non navigational uses of International Watercourses, adopted by the UNGA on 21 May 1997
[44] The 1997 UN water convention article 5
[45] McCaffrey and Sinjela. "United Nations Convention on International watercourses" pp. 100
[46] Salman, "Perspectives on International Water Law," pp 633

achieved at the same time without problems, the wording of paragraph 2 of article 7, which state that;

> "Where significant harm is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm, and where appropriate, to discuss the question of compensation,"

suggests the expectation that equitable and reasonable utilization may result in appreciable harm to another state,[47] where the obligation to take 'appropriate measures', as well as the obligation to 'discuss compensation', are to be made with 'due regard to the provisions of article 5 and 6' which in other words, sends the message that due regard must be given to the principle of equitable utilization.[48]

This is even more likely given the present day water scarcity that practically any use of fresh water might lead to harm. It is believed that paragraph 2 of article 7 gives precedence to equitable utilization over the no harm rule.[49]

2.1.5. The concept of Integrated Water Resource Management (IWRM)

Though the principles of Equitable and Reasonable utilization and the no harm rule are the important substantive rules of the law of international watercourses, the task of putting these substantive principles to practice takes a lot of cooperation among riparian states. Mainly because rivers are trans-boundary resources that transcend political boundaries, being affected by diversified climatic and other conditions in those boundaries. This necessitates cooperation in the management of such water resources, while at the same time makes fragmented management of the resource less effective and unsustainable.

Therefore it is becoming widely accepted that international watercourses are better managed in an integrated manner, hence the importance of the concept of Integrated Water Resource Management (IWRM) as a means to achieving the objectives of international water

[47]Beaumont, "UN Convention on the Law of Non-navigational Uses of IWC," pp 482

[48] Dellapenna, "customary international law," Pp 285

[49]McCaffrey and Sinjela. "United Nations Convention on International watercourses." pp 101, McCaffrey, "International Watercourses: Prospects and Pitfalls," 17-28, Pp 22, Salman, "Perspectives on International Water Law," pp 634

law. This concept has not yet acquired the status as one of the principles of international water law, neither does it has an unambiguous definition.

The Dublin International Conference on Water and Environment held in 1992 is believed to have brought the concept of IWRM to the international agenda. This conference adopted four elements of IWRM:[50]

- Water as a finite and vulnerable resource, essential to sustain life, development and the environment,
- Participatory approach,
- The important role of women, and
- Water as an economic good

The first element conveys the important massage that the sustainable management of a watercourse demands a holistic approach, linking social and economic development with the protection of the natural ecosystem. Secondly the relevance of participatory decision making is given due consideration. Participation should involve all stake holders from all levels of the social structure and it has to be real participation that could have impact on the outcome of planning and implementing water projects. The role to be played by the women is also recognized therefore it is important to equip and empower women to enable them play their part in the management of the resource. The fourth element suggests that understanding the economic value of water will help in averting the waste full utilization of the resource.

In implementing these elements in to concrete actions it is believed that the IWRM process plays an important role.[51] The Global Water Partnership Technical Advisory Committee (GWP-TAC), admitting that there is no one unambiguous definition, adopted the Following definition:[52]

> "IWRM is a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems."

[50] McCaffrey and Zuca, "Fresh Water Resources," 243-257 pp 246
[51] Global Water Partnership, "Integrated Water Resources Management", pp 22
[52] Global Water Partnership, "Integrated Water Resources Management", pp 22

Agenda 21 states that "...the holistic management of freshwater as a finite and vulnerable resource, and the integration of sectoral water plan and programs within the framework of national economic and social policy are of paramount importance."[53] It further stated certain objectives of IWRM which are:[54]

> (a) To promote a dynamic, interactive, iterative and multisectoral approach to water resources management, including the identification and protection of potential sources of freshwater supply, that integrates technological, socio-economic, environmental and human health considerations;
>
> (b) To plan for the sustainable and rational utilization, protection, conservation and management of water resources based on community needs and priorities within the framework of national economic development policy;
>
> (c) To design, implement and evaluate projects and programs that are both economically efficient and socially appropriate within clearly defined strategies, based on an approach of full public participation, including that of women, youth, indigenous people and local communities in water management policy-making and decision-making;
>
> (d) To identify and strengthen or develop, as required, in particular in developing countries, the appropriate institutional, legal and financial mechanisms to ensure that water policy and its implementation are a catalyst for sustainable social progress and economic growth.

These objectives and the definition forwarded by the TAC reveal that this concept goes hand in hand with most of the established and emerging principles of international water law. Therefore it can be concluded that resort to IWRM will support the realization of sustainable management of water resources by promoting ecosystems approach, drainage basin concept, cooperative management, and equitable utilization.

[53] Agenda 21 chapter 18 para. 6
[54] Agenda 21 chapter 18 para. 9

2.2. MEANING, DEVELOPMENT AND STATUS OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT UNDER INTERNATIONAL LAW

2.2.1. Defining Sustainable Development

Sustainable development, a concept that is acquiring an increasing international recognition as part of customary international law, has no unitary and detailed definition.[55] If there is no such unitary and detailed definition the relevant question will then be how the concept of sustainable development can be understood? Some agree that even though there are many definitions forwarded whether in political, economic or legal discourse, the definition suggested by the Brundtland report of 1987[56] is the best and the most widely accepted definition.[57] The Brundtland report defined sustainable development as;

> "…Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[58]

This definition contains two concepts within it;[59] first the concept of needs in particular the essential needs of the world's poor to which over ridding priority should be given and, second the idea of limitations imposed by the state of technology and social organization on the environments ability to meet present and future needs.

The term sustainable development has been included in the Rio Declaration on Environment and Development to denote the need to balance environmental and development considerations.[60] In the WSSD it was further articulated as having three pillars, namely economic development, social development and environmental protection.[61]

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[55] Osofsky, "Defining Sustainable Development," Pp 112

[56] Report of the World Commission on Environment and Development (the Brundtland Report), Our Common Future (1987)

[57] Schrijver & Weiss, *International Law and Sustainable Development*, Pp XII, Stallworthy, *Sustainability, Land Use and Environment*, Pp 2

[58] Brundtland report 1987 43

[59] Brundtland report 1987 43

[60] Rio Declaration on Environment and Development, June 13, 1992

[61] Louka, *International Environmental Law*, pp 52

Some agree that at least four key elements of sustainable development are identified by various environmental agreements[62] these are (1) the integration of environment and development polices, (2) intergenerational equity, (3) the sustainable use of natural resources, and (4) intra generational equity or the principle of equitable use,

2.2.1.1. Integration of Environment and Development

In the 1970s the debate between pessimist conservationists and optimist developers was intensifying because of the growing attitude that exploitation of the resources of the world without due regard to environment protection was adversely affecting the environment and there by the human being.[63] The debate by then was between the optimists, who believed that economic growth will provide the resource and technology to reverse the environmental damage, and hence support the strengthening of economic growth, while the pessimists were of the view that the damage that will be caused to the environment will be irreversible.[64]

This polarized view was somehow reconciled by the publication of the World Conservation Strategy (WCS) by the International Union for Conservation of Nature and Natural Resources (IUCN) in 1980.[65] This publication highlighted the fact that conservation and development are mutually dependent.[66] The 1992 Rio declaration[67] recognized this element of sustainable development under principles 3 and 4 which read;

> Principle 3
>
> "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations." And;
>
> Principle 4
>
> "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it."

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[62] Sands, *principles of international Environmental law*, pp 253

[63] Cole, "Economic growth and the environment" 240-253, pp 240

[64] Cairncross, *Costing the Earth*, pp 17

[65] the world conservation strategy (WCS) is published by the international union for conservation of nature and natural resources (IUCN) in 1980, WCS (1980) @ << http://www.uncp/wwf/iucn.nr> last visited 11 August 2010

[66] WCS chapter 1 para. 9, Kuokkanen, *International Law and the Environment*, pp 328

[67] Declaration of the United Nations Conference on Environment and Development (UNCED) held in Rio De Jeneiro in 1992

Therefore, the integration of environment and development requires that 'due regard be paid to the protection of the environment, imposing some sort of constraint up on the right of states to choose and apply their own developmental policies.'[68] This therefore means 'that in every developmental decision the environment costs are taken in to account and this will require that laws be modified to include environmental externalities and establish concrete criteria against each to judge the sustainability of each project'.[69]

2.2.1.2. Intergenerational Equity

This element deals with the protection of the interest of the future generations. The international court of justice in its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons stated that the concern is not only for the wellbeing of human beings who are alive at present but also including those unborn. It stated that 'the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, *including generations unborn.*'[70] (Italics added) Therefore this principle is one that 'governs the right of future generations, including the unborn, to the preservation of natural resources under a sustainable management regime that protects those resources for their future benefit.'[71] The underlying premise is that each generation is both a custodian of the planet for future generations and a beneficiary of its fruits.[72]

2.2.1.3. Sustainable Use of Natural Resources

This principle put limitation on the sovereignty of states to use their natural resources in a manner that takes conservation of the resources in to consideration. Though there has been some concern about consumption and over consumption of natural resources, it was after the 1949 International Scientific Conference on the Conservation and Use of Resources held by the UN that this concern joined the international arena.[73] Like most environmental concepts it was further developed through different international conferences on the environment. One

[68] Schrijver & Weiss, *International Law and Sustainable Development*, Pp 8
[69] Stallworthy, *Sustainability, Land Use and Environment*, Pp 8 quoting Hodas DR, 'the role of law in defining sustainable development; NEPA reconsidered' 1998, Widener law symposium J.1 pp 6
[70] Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion), para. 29.
[71] Footer, "Our Agricultural Heritage: Sustainability, Common Heritage and Intergenerational Equity," 433-466 pp 457
[72] Stallworthy, *Sustainability, Land Use and Environment*, Pp 12
[73] Jackson, "Sustainable consumption" 254-270, pp 255

important event among others was the publication of the report of the Club of Rome in 1972, which brought attention to the impact rising levels of affluence could have in terms of resource depletion and environmental degradation, and expressed that there would be severe resource scarcity.[74]

'Sustainable use' is defined under article 2 of the biodiversity convention[75] as 'use…in a way and at a rate that does not lead to long term decline of biological diversity.' The sustainable use element is comprised of two aspects; the rationale use of natural resources and the protection of the ecosystem.[76] The 2002 New Delhi Declaration states that;

> "States are under a duty to manage natural resources, including natural resources within their own territory of jurisdiction, in a rational, sustainable and safe way so as to contribute to the conservation and sustainable use of natural resources and the protection of the environment, including ecosystems. States must take into account the needs of future generations in determining the rate of use of natural resources."[77]

As can be seen harm to other areas beyond the jurisdiction of the state is not required under the sustainable use requirement but rather it focuses on the use of natural resources within a state's own jurisdiction.[78]

When it comes to the use of water resources Rieu-Clarke states that 'in basic terms, the challenge of sustainable use is to ensure that human uses of a particular water resource do not endanger the natural recharge rates of that water resource.'[79] And suggests basic elements of a strategy for ensuring sustainable use of water resources which are; (i) a river basin approach, (ii) the integration of economic, social and environmental needs, (iii) an ecosystemic approach, (iv) treating water as an economic good, (v) continuous water resource assessment, and (vi) public participation.[80] The 1992 UN ECE Trans boundary watercourses Convention

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[74] Jackson, "Sustainable consumption" 254-270, pp 255

[75] Convention on biological Diversity, United Nations, 1992. Available at: http://www.cbd.int/doc/legal/cbd-en.pdf last visited 12/30/10

[76] Kuokkanen, *International Law and the Environment*, Pp 325-326, Rieu-Clarke, "A Fresh Approach to International Law" pp 93

[77] New Delhi Declaration, 2002 article 1(2)

[78] Rieu-Clarke, "A Fresh Approach to International Law" pp 93

[79] Rieu-Clarke. "Sustainable Use and the EC Water Framework Directive: From Principle to Practice?" 557-574, pp 559

[80] Rieu-Clarke. "Sustainable Use and the EC Water Framework Directive: From Principle to Practice?" 557-574, pp 559-560

and the 1997 UN watercourse conventions call for 'sustainable management' and 'optimal and sustainable utilization' of water resources, respectively.[81] Some are of the view that 'there is enough evidence that sustainable utilization is at least an evolving element of international watercourse law and an essential element if the objectives of sustainable development and international policy are to be fully realized.'[82]

2.2.1.4. Intra-Generational Equity or the Principle of Equitable Use

Intra-generational equity is concerned with the right of all people within the current generation to fair access to the current generation's entitlements to the earth's natural resources.[83] One of the key concepts identified by the Brundtland report is the 'concept of needs' in particular the essential needs of the world's poor to which overriding priority should be given.[84] The economic gap between the rich and the poor, both among nations and at the local level is widening where the poor is getting poorer.

According to Brown Weiss the impoverished peoples consists at least four different groups with overlapping member ship; 'countries falling further behind economically; communities and peoples living in countries who are impoverished; refugees from violence, famine and environmental destruction and in some cases elderly population.'[85] Poverty eradication is central to sustainable development on one hand because the poor suffers the most due to environmental degradation and on the other the poor is highly likely to degrade the environment in search of survival.[86] Therefore Intra-generational equity is 'directed at the serious socio-economic asymmetry in resource access and use within and between societies and nations that has exacerbated environmental degradation and the inability of a large part of humanity to adequately meet its most basic needs.'[87] The message in this element is that use of natural resources by one state must take account of the needs of other states. In relation to

[81] Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes done at Helsinki, on 17 March 1992 Available at: http://www.unece.org/env/water/pdf/watercon.pdf article 3, last visited 12/30/10 and The 1997 UN water convention article 5
[82] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 563-564
[83] Magraw, and Ruis, "Principles and concepts of international environmental law," 23-38 pp 26
[84] Brundtland report 1987 at 43
[85] Weiss, "Emerging International System" pp 11-12
[86] Holder and Lee, *Environmental Protection*, pp 239
[87] Segger, Khalfan & Nakjavani " Weaving the Rules for Our Common Future," pp 46

international watercourses this element is reflected in the well established principle of equitable utilization, which has been discussed above in detail.

2.2.2. Development of the Concept of Sustainable Development under International Law

To further understand the meaning and status of the concept of sustainable development it is important to see its development under international law.

The concept 'sustainable development' currently, is arguably the most referred to concept in international regional and national context. This however does not mean that its status under international law is not contested. Therefore it is important to look in to how this concept evolved and what arguments were forwarded in relation to its place under international law.

Bruno Sima wrote,[88] "major concerns as well as interests beget ideas then concepts, principles eventually practice, practice of law at least some times". It is this way the concept of "sustainable development" developed, rooted in the quest to change the way natural resources were exploited. There existed a conflict between the ideology of developers who chanted for exploitation of natural resources for economic development and conservationists who advocated environmental protection in order to preserve and maintain the resilience of nature.[89]

Though there had been some concerns and bilateral agreement regarding the exploitation of certain natural resources it is the 1972 UN Conference on the Human Environment, in Stockholm, that signaled environmental attention on the international plat form. The outcome of this conference was the Stockholm Declaration which though did not specifically referred to sustainable development, indicated the need to manage natural resources taking in to account the needs of present and future generations, under principle 2, which reads;[90]

> "The natural resources of the earth including the air, water, land; flora and fauna…must be safe guarded for the benefit of present and future generations through careful planning or management as appropriate."

[88] Bruno Simma, "forward," pp V, in international Law and Sustainable Development Principles and Practice, Edited by Schrijver & Weiss.
[89] Schwarz, "Sustainable Development in International Law," Pp 128
[90] The UN Conference on the human Environment adopted three non-binding instruments: one being Stockholm Declaration, Stockholm Declaration 1972 Principle 2

The declaration further provided under principle 21, that sates have the sovereign right to exploit their own resources pursuant to their own environmental policies. This sovereign right will however only be exercised with the limit of not causing damage to the environment of other states.[91] They are also required to guard against future exhaustion of non renewable sources and safeguard the natural resources of the earth through careful planning and management for the benefit of present and future generations.[92]

Stockholm had identified a common outlook and link between resource exploitation for development and environmental protection a link that was subsequently adopted in the World Conservation Strategy (WCS).[93] The WCS came up with the phrase "sustainable development" which was incorporated in the Brundtland report later on.[94]

The UNCED held in Rio De Jeneiro in 1992 has significantly contributed to the development of the concept. Among the most important accomplishments of the conference were the Rio-declaration on Environment and Development, which was designed to promote environmental co-operation for sustainable development and Agenda 21, a Comprehensive Program of Action covering all area of the environment.[95] The Rio conference was characterized by the usual north-south conflict on issues related to "environment" and "development." The developed north sought progress on climate change, biodiversity, and forest loss and fishery issues, the developing countries pushed for market access, trade, technology transfer, development assistance and capacity building.[96] In addition to this they pointed finger at each other one blaming the other as the source of the cause of the environmental degradation, where the developed world blame the population growth in the developing world, while the developing world related it with the level of consumption by the industrialized world.[97]

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[91] Stockholm Declaration 1972 Principle 21
[92] Stockholm Declaration 1972 principles 5 and 2

[93] Schwarz, "Sustainable Development in International Law," Pp 129
[94] Holland, "sustainability," 390-401. Pp 390
[95] Cotter, "International Environmental Law: The Global Village," 1-10 Pp 2

[96] Rajamani, "from Stockholm to Johannesburg," pp 25-6 quoted in Holder and Lee, Environmental Protection, pp 254
[97] Rajamani, "from Stockholm to Johannesburg," pp 25-6 quoted in Holder and Lee, Environmental Protection, pp **255**

Ten years after Rio, in 2002 the world summit on sustainable development was held in Johannesburg, South Africa. At this summit the commitment for sustainable development was reaffirmed and was further articulated as having three pillars, namely: social development, economic progress and environmental protection.[98]

2.2.3. Status of Sustainable Development under International Law

The concept of sustainable development has found its way into different fields of international law. International trade law, international watercourse law, international human right law and international developmental laws are among such fields. [99]

However its status under international law has always been a point of discussion and debate. The debate is not because it lacks acceptance at the international level by states, as it is evidenced by several international documents, regional and international treaties and national laws that this concept enjoys a considerable amount of acceptance among the international community.

The important question here will be does international law impose an obligation to develop sustainably? According to Bernie and et al, "the normative uncertainty coupled with the absence of justiciable standards for review strongly suggest that decision on what constitutes sustainability rest primarily with individual governments." [100] However they do not rule out the role for courts and international law in promoting sustainability. On one hand, because courts can review the sustainability of economic development by reference to detriment to human right, while on the other hand, even though international law may not require development to be sustainable, it does require it to be an outcome of a process which promotes sustainable development.[101] In summary they point out that whether or not sustainable development is a legal obligation, it represents goal which can influence the

[98] Holder and Lee, *Environmental Protection*, pp 237
[99] Fuentes. "International Law-making in the Field of Sustainable Development," 7-38, pp 9-10

[100] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 126
[101] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 126-127

decisions in cases, international treaties and the practice of states and international organizations, and it may lead to significant changes and development in the present law.[102]

Others are of the view that sustainable development has acquired a place under international law. Sands declared that:

> "There can be little doubt that the concept of sustainable development has entered the corpus of international customary law requiring different streams of international law to be treated in an integrated manner" [103]

He further states that the ICJ has indicated that the concept sustainable development has a legal function and both a procedural and substantive aspect.[104] His argument relied on paragraph 140 of the judgment especially the last few statements, which reads:

> "….that the Parties together should look afresh at the effects on the environment of the operation of the Gabcikovo power plant. In particular they must find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the side-arms on both sides of the river."[105]

According to sands the procedural aspect is reflected by obliging the parties to 'look afresh' at the environmental consequences of the operation of the plant, and the substantive aspect being the obligation of result to ensure that a 'satisfactory volume of water' be released from the by-pass canal into the main river and its original side arms.[106] In the same judgment, in a separate opinion, judge Weeramantry held that sustainable development is a principle of customary international law.[107] His opinion states that both the right to development and the right to environmental protection are principles forming part of the corpus of international law. They could operate in collision with each other unless there was a principle of international law which indicated how they should be reconciled. That principle is the principle of sustainable development.[108]

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[102] Birnie, Boyle and Redgwell, *International Law and the Environment,* pp 127
[103] Sands, *principles of international Environmental law,* Pp 254

[104] Sands, *principles of international Environmental law,* Pp 255
[105] Gabcikovo Nagymoros case judgment para. 140
[106] Sands, *principles of international Environmental law,* pp 255
[107] GabCikovo-Nagymaros case judgment pp 88-119
[108] GabCikovo-Nagymaros case judgment pp 90

Others argue that the concept sustainable development fails short of a principle of customary international law[109] and argue that the legal notion of sustainable development implies a legitimate expectation that actors at the international and domestic levels should conduct their affairs in a manner consistent with the pursuit of economic development, social development and environmental protection.[110] The point of this argument is that sustainable development could be normative in the context of practical reasoning, that is, as a guide to deliberation, discourse or decision making.[111]

This uncertainty about the legal status of the concept seems to continue to exist, unless the international community further determines the rules on sustainable development and enable specific rules to emerge in appropriate definition so that in the future states and other concerned actors could be held internationally accountable for achieving sustainable development at both global and national level.[112] This however will not be an easy task to achieve.

2.3. SUSTAINABLE DEVELOPMENT AND INTERNATIONAL WATER LAW

Trans-boundary waters are being strained in an effort to meet ever-increasing demand for irrigation, power, navigation, flood control, and recreation, as well as the sustainable preservation of fish, plants, and wildlife. The challenge is to find a balance between water for human and economic-based demands and water for maintaining ecosystem integrity and environmental sustainability.[113] The need to reconcile such conflict has reached a level of necessity due to the current world wide water crisis.

This need to balance the use of water resources for social and economic development as well as protection of the water resources is reflected in decisions of international courts and other international instruments. The international court of justice in dealing with the Gabcikovo Nagymoros case stated that:

[109] Marong, "From Rio to Johannesburg," pp 1
[110] Marong, "From Rio to Johannesburg," pp 45
[111] Marong, "From Rio to Johannesburg," pp 44
[112] Horn, "Globalization," pp 69
[113] United Nations Environment Programme, *greening of water law*, pp 37

> 'Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind - for present and future generations - of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development.'[114]

The mention of the concept of sustainable development in the judgment, Sands believes, indicates among other things that the term has a legal function,[115] but the crucial question will be on what basis does sustainable development will have a legal function under international water law?

Some are of the view, the fact that in the preamble of the Watercourses Convention it is expressed that the framework convention will strive to attain the optimal and sustainable utilization of the resource for present and future generations, indicate that parties are expected to interpret the Watercourses Convention in line with sustainable development.[116] This could be realized through the application of the basic substantive principles under the convention as discussed herein under. Under article 5 of the Watercourses Convention watercourse states are expected to use and develop the watercourse with a view to attaining optimal and sustainable utilization. This position was reaffirmed by the ICJ in the Gabcikovo Nagymoros case.[117] The Protection, preservation and management of international watercourses is also dealt with under part IV of the watercourse convention. Articles 24 to 26 consider the management of an international watercourse in terms of its sustainable development. In effect it proposes the establishment of a joint management mechanism which will provide mutual benefits for all the

[114] Gabcikovo Nagymoros case judgment Para 140
[115] Sands, "International Courts," pp 393
[116] Hildering, *Sustainable Development and Water Management*, pp 55
[117] Gabcikovo Nagymoros case judgment Para 147,150

states.[118] Article 2.5(c) of the 1992 ECE Convention[119] states that parties, when taking measures to prevent, control and reduce any trans boundary impact, shall be guided by the principle that: 'Water resources shall be managed so that the needs of the present generation are met with-out compromising the ability of future generations to meet their own needs'.

Some suggest that international water law, due to the importance and unique nature of water, and in the same manner as sustainable development does, strives to reconcile the economic, social and environmental interests in the utilization and management of water resources.[120] According to Wouters and Rieu-Clarck, to be consistent with, and promote, the goal of sustainable development, International water law adopts the primary substantive principle of "equitable and reasonable utilization", as embedded in the 1997 UN Watercourses Convention.[121] This principle, they say, operates at two levels: setting the standard to be achieved, and, establishing the operational approach to determine that standard,[122]and provides, that States take into consideration the factors tied to sustainable development of the resource, thus providing the legal framework for operationalising this concept.[123]

This position however does not enjoy exclusive support, as there are certain scholars who hold the view that it would be asking too much of the principle of equitable and reasonable utilization to go beyond what it has been originally developed to achieve.

As Dellapenna suggests, 'if the law governing the allocation of internationally shared waters is to be a positive contribution to the solution of the looming global water crisis…the relation between the principle of equitable utilization and the relevant principles of international environmental law, particularly the principle of integrated management, the precautionary principle, and the principle of sustainable development' has to be clearly and properly expressed.[124]

Antoinette Hildering points to the problems that necessitated the development of the two concepts and states that the Equitable and reasonable utilization in itself does not require states to aim for the common goal of sustainable development, as its raison d'être was the

[118] Beaumont, "UN Convention on the Law of Non-navigational Uses of IWC," pp 485
[119] Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes, done at Helsinki, on 17 March 1992 Available at: http://www.unece.org/env/water/pdf/watercon.pdf last visited 12/30/10
[120] Rieu-Clarke, "A Fresh Approach to International Law" pp 6
[121] Wouters & Rieu-Clarke. "The Role of International Water Law" pp 2
[122] Wouters & Rieu-Clarke. "The Role of International Water Law" pp 2
[123] Wouters & Rieu-Clarke. "The Role of International Water Law" pp 3
[124] Dellapenna, "customary international law," Pp 288

resolution of conflict between riparian states over allocation of the resource.[125] According to this position states may allocate the water resource they share in an equitable and reasonable manner without the need to take its sustainability in to account. This argument seems to neglect the "reasonableness" element in the principle, which according to Rieu-Clarck, takes in to consideration the 'contemporary conception of rationality,' that takes into account both the special needs of States and the need to protect the long-term viability of international watercourses.[126]

However, the substantive rule of equitable and reasonable use will be heavily reliant on other supporting procedural rules and mechanisms if it is to be successfully applied within the context of international watercourses.[127] These procedural rules and mechanisms help states in reaching an Equitable and Reasonable Utilization of international water courses. These procedural rules and mechanisms emanate from the general obligation of states to cooperate.[128] Article 8(1) of the 1997 UN watercourses convention provides that 'watercourse states shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of international watercourse.' This is also reflected in some international agreements on international watercourses including the 1994 Mekong river agreement and the Revised Protocol on Shared Watercourses in the Southern African Development Community.[129] The procedural rules include the prior notification and other related obligations, consultation with riparian states and exchange of data and information on a regular basis.[130]

2.4. WATER USE AND THE THREE PILLARS OF SUSTAINABLE DEVELOPMENT

Water resources have irreplaceable social, economic and environmental importance. Many aspects of life on earth are dependent on the availability of adequate water. However the ever increasing demand for water mainly due to population growth and economic development

[125] Hildering, *Sustainable Development and Water Management*, pp 57
[126] Rieu-Clarke, "A Fresh Approach to International Law" pp 194
[127] Rieu-Clarke, "A Fresh Approach to International Law" pp 195
[128] Rieu-Clarke, "A Fresh Approach to International Law" pp 197
[129] Agreement on the cooperation for the sustainable development of the Mekong River art 1, Revised protocol on shared watercourses in the southern African development community art 2
[130] McCaffrey, *law of international watercourses*, pp 464-480, Vinogradov, Wouters, and Jones, "Transforming Potential Conflict In to Cooperation Potential" pp 19

is causing tension over the use of this scarcely available resource. This is already evidenced at the sectoral level by insufficient and inadequate supplies, at the national level by competing demands between sectors and at the international level by conflict, or the threat thereof, between nations sharing trans boundary water resources.[131] Herein under these different and competing uses of the water resource are discussed.

2.4.1. Social Use and the "Human right to Water"

The social sector of water use comprises uses that serve peoples basic needs, domestic uses and food production and those that serve cultural purposes. It is related with the right to have access to water. Despite water's necessity to life, the reality is that billions of people worldwide are denied access to safe water. In 2002, the WHO estimated[132] that 1.1 billion people (17% of the global population) lacked access to improved water sources, and 2.6 billion people (42% of the global population) lacked access to improved sanitation. Every day, 3,900 children under the age of 5 die from water-related diseases (e.g. diarrhea). The lives of these people, often among the poorest on our planet, are devastated by this deprivation. Lack of access to water also impedes the enjoyment of health and other human rights (e.g. right to education, right to adequate standard of living, right to food).

In relation to the right to food the position held is divided on the question whether the right to have access to water refers to availability of water for agricultural uses or just for domestic food preparation and subsistence farming? Some suggest that water use for agricultural uses should be included under the human right to water for the reason that 'agriculture is a necessary practice for any food crop development, and water scarcity is clearly playing a role in local famines where water is unavailable or of poor quality.'[133] While others are of the view that water for irrigation and agriculture should not be considered as the core content of the right to water because, the food necessary to realize the right to food can be produced in a distant place and brought to the place where there is demand.[134] A more convincing view is that water for irrigation and agriculture, other than those for essential food

[131] Qaddumi, "Practical approaches" Pp 1

[132] Dubreuil, "The Right to Water," pp 3 this figures might well rise at present given the population growth.
[133] Schreiber, "Realizing the Right to Water," pp 443
[134] Gleick. "human right to water," pp 491, Hardberger" Life, Liberty, and the Pursuit of Water," pp 357

stuffs, may be considered as within the scope of the right to water but not the core content of the right.[135]

The importance of access to water for sustainable development is reflected in the key commitment made at the World Summit on Sustainable Development (WSSD) to halve, by the year 2015, both the number of people without access to safe drinking water and the number of people who do not have access to basic sanitation.[136] Expanding access to domestic water supply and sanitation services is one of the most important targets of the Millennium Development Goals.[137] Meeting target 10 is particularly vital in terms of the poverty, gender, and health Goals, and also has a significant impact on other Goals.[138]

2.4.1.1. The Legal Basis for a Human Right to Water

Amid such water crisis and related problems the idea of a human right to water seems to be finding its way in to the corpus of international law. Several international and regional human right instruments cover a range of fundamental human rights both of civil and political and economic social and cultural rights. Among such instruments the important ones are the Universal Declaration of Human Rights of 1948 (UDHR), the International Covenant on Civil and Political Rights of 1966 (ICCPR), the International Covenant on Economic, Social, and Cultural Rights of 1966(ICESCR), the Convention for the Elimination of All Forms of Discrimination against Women of 1979(CEDAW), Convention on the Rights of the Child of 1989 (CRC), and other regional instruments. Among these documents it is only in the CEDAW and CRC that the right to water is given recognition explicitly.[139] Such lack of explicit reference does not seem to hinder the recognition of a human right to water, because water is seen as a life sustaining resource and fundamental in the realization of other fundamental rights as the right to food, adequate living standard, and health and ultimately the right to life. It is in support of this some suggest that:

> "Any attempt to codify fundamental human rights which lacked a statement of a right to water…would be seriously flawed, state which purports to respect human

[135] Cahill, "human right to water," pp 396
[136] Hildering, *Sustainable Development and Water Management*, pp 73
[137] Target 10 of The millennium development goal reads as "...Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation"
[138] UN Millennium Project 2005. *Health, Dignity, and Development*, Pp 17
[139] CEDAW art. 14(2) h and the CRC under art. 24(2)c

right has a duty to ensure that its citizens have access to water, sufficient in both quality and quantity, to meet their physiological needs."[140]

But what is the legal basis for a right to water under international human right law? Why is it that international human right instruments while recognizing several rights, preferred not to make mention of a right to water?

Some suggest that the right to water has been recognized implicitly under articles that refer to directly related rights contained within the ICESCR 1966, such as an adequate standard of living and the highest attainable mental and physical health, and the right to life under the ICCPR.[141] The explicit mention of water as a human right under these instruments may have been left out because water was not the center of international concern by the time these instruments where drafted and adopted and, due to lack of global environmental awareness at the time.[142] This point seems credible given the inclusion of such a right under the CEDAW and CRC, which came after environmental concerns has surfaced the international arena, especially after the Stockholm conference in 1972.[143] In relation to article 25 of the UDHR[144] Gleick held that:

> "Logic also suggests that the framers of the UDHR considered water to be implicitly included as one of the `component elements' - as fundamental as air. Satisfying the standards of Article 25 cannot be done without water of a sufficient quantity and quality to maintain human health and well-being."[145]

In 2002 the UN Committee on Economic, Social and Cultural Rights adopted General Comment No. 15 on the right to water,[146] interpreting articles 11 and 12 of the ICESCR. The committee recognized water as a separate right included within the ICESCR, stating it was

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[140] Miller, *Environmental Rights,* Pp 93

[141] Cahill, "human right to water," pp 390

[142] Schreiber, "Realizing the Right to Water," pp 438

[143] United Nations Conferences on the Human Environment, Stockholm, Sweden. June 5-7, 1972.

[144] Article 25 of the UDHR provides that;

1. Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

2. Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

[145] Gleick. "Human right to water," pp 491

[146] UN Committee on Economic, Social and Cultural Rights, General Comment No.15 20/01/03 (29th session,Nov. 2002) The Right to Water (Arts 11 and 12 of the Covenant), E/C.12/2002/11 (hereafter referred to as GC15), Adopted Tuesday 26 Nov. 2002.

"one of the most fundamental conditions for survival."[147] The general comment provided under paragraph 2 that:

> "The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements."

This paragraph divides the elements of the right in to three, availability, quality, and accessibility. The availability element dictates "the water supply for each person must be sufficient and continuous for personal and domestic uses."[148] To fulfill the quality requirement, "the water required for each personal or domestic use must be safe, therefore free from micro-organisms, chemical substances and radiological hazards that constitute a threat to a person's health."[149] The accessibility aspect has four over lapping dimensions; physical accessibility, economic accessibility, non discrimination and information accessibility.[150]

This being the general picture, there still exist an ambiguity as to the content and scope of the right to water. GC15 has entertained its own share of criticisms for, although it does establish a relationship between closely related rights and the right to water, not exploring these relationships, and as a consequence for not defining the scope or core content of the right to water with much specificity.[151]

2.4.1.2. Implication of a Human Right to Water

The absence of explicit reference has created problems in relation to implementation. Many suggest that the recognition of a human right to water may have a range of implications in addressing the current water crisis. One author suggests that the advantage of utilizing the human rights approach is that water needs are transformed into water rights.[152] According to this view, vertical relationship of human rights law, i.e. between the state and the individual,

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[147] GC15 para. 3
[148] GC15 para. 12(a)-(c)
[149] GC15 Para. 12 (b)
[150] GC 15 PARA 12(c) i-iv
[151] Cahill, "human right to water," pp 393, Bluemel, "Implications of Formulating a Human Right to Water" pp 1006
[152] Cahill, "human right to water," pp 390

means that the right to water is applicable to everyone within that state, including vulnerable groups.[153]

According to Gleick acknowledging the right to water, even in the presence of explicit acknowledgement to the rights of food and health, has at least five values,[154] to encourage the international community and individual governments to renew their efforts to meet basic water needs of their populations, pressure to translate that right into specific national and international legal obligations and responsibilities is much more likely to occur, to maintain a spotlight of attention on the deplorable state of water management in many parts of the world, to focus attention on the need to more widely address international watershed disputes and to resolve conflicts over the use of shared water by identifying minimum water requirements and allocations for all basin parties, and finally, explicitly acknowledging a human right to water can help set specific priorities for water policy. In addition to defining states obligation to ensure supply, a right to water will result in a better resource management and water productivity, and conservation of the water resource.[155]

McCaffrey saw its implication going beyond the provision of the right by a government to people in its territory but also to the allocation of international water courses among riparian states.[156] According to him one state cannot deny co riparian state water necessary for the survival of its population on the ground that the water is needed for the economic development of the former.[157] This is reflected under article 10 of the 1997 UN convention, which provides that in the event of a conflict between uses of water in an international watercourse, special regard shall be given “to the requirements of vital human needs."

2.4.2. Economic Use and Development

Economic use of water resource is one of the most fundamental aspects of water utilization. These uses are those that mainly serve Economic development, such as industrial use, agriculture, energy and transport. Its role as a resource for agriculture, energy, and industry is essential to fighting poverty and hunger. Water is an important factor of production in a variety of industries crucial to economic development and poverty reduction; it is also

[153] Cahill, “human right to water,” pp 390
[154] Gleick. “Human right to water,” pp 489
[155] Ziganshina, “Human Right to water,” pp 113-128, pp 128
[156] McCaffrey, “A Human Right to Water” pp 24
[157] McCaffrey, “A Human Right to Water” pp 24

central to the livelihood systems of the rural poor.[158] In their quest to realize economic development in their respective countries, states strive to utilize such strategic resources; however, such use is not unlimited.

Sovereignty over Natural Resources

One of the repeatedly invoked principles under international law in relation to exploiting natural resources is the principle of sovereignty of states over natural resources. This principle confers up on states the right to decide the allocation of natural resources according to their policy. The sovereignty of states over natural resources, and sovereignty in general for that matter, does not any more enjoy the conventional image of sovereignty as absolute, illimitable and indivisible.[159] It has been qualified for several reasons in different contexts such as human right protection, international trade and responsibility for the protection of other states and common interests.

This principle is found in several international instruments, binding and non-binding, and is reflected in some international decisions.[160]

Article 1(2) of the 2002 ILA New Delhi Declaration stipulates that:

> "It is a well-established principle that, in accordance with international law, all States have the sovereign right to manage their own natural resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause significant damage to the environment of other States or of areas beyond the limits of national jurisdiction."[161]

The principle appears to be founded on the Latin maxim, sic utere ut alienum non laedas (so use your own as not to harm that of another).[162] This principle is relied up on in the Trial smelter arbitration[163] it was held that under the principles of international law no state has the

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[158] UN Millennium Project 2005, *Health, Dignity, and Development*, Pp 149

[159] Douzinas, "Speaking law: on bare theological and cosmopolitan sovereignty," 35-56, pp 35

[160] UN CSD, Report of the Expert Group Meeting on Identification of Principles of International Law for Sustainable Development, Geneva, Switzerland, Sept 26-28, 1995accessed at http://www.un.org/documents/ecosoc/cn17/1996/background/ecn171996-bp3.htm last visited 12/31/10 para 51, the 1992 Biodiversity Convention article 3, preamble of the UNFCC, Stockholm Declaration principle 21, Rio Declaration principle 2.

[161] New Delhi declaration art 1(2) 2002

[162] Rieu-Clarke, "A Fresh Approach to International Law" pp 87

[163] For a detailed discussion of the arbitration's influence on international law generally and international environmental law specifically, see *Trans-boundary Harm in International Law*, edited by Bratspies and Miller

right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons there in, where the case is of serious consequence and the injury is established by clear and convincing evidence.[164] The ICJ in its judgment in the Corfu Channel Case held that it was 'every state's obligation not to allow knowingly its territory to be used for acts contrary to the right of other states.'[165] Hence supporting the position held in the Trial Smelter case though the context it was applied in the Corfu channel case was different. These cases focus on harm caused against another state, but the principle in its current form requires the protection of global common areas, including Antarctica and those areas beyond the limits of national jurisdiction.[166]

In international water law the limit to such sovereignty is founded in the principle of limited territorial integrity and limited territorial sovereignty. These principles allow interests to be balanced as required by equitable and reasonable utilization, as well as sustainable development.[167] Therefore water course states, in their effort to realize economic development in their respective country need to take in to consideration the interests of other watercourse states and should ensure that any activity that take place within their jurisdiction should not result in injury to other co riparian.

2.4.3. Ecological Use and Protection of the Water Resource and Its Ecosystem

As has been discussed above the role of water in achieving the social and economic development needs of the world is immense and irreplaceable. In addition to this, water has an ecological use that needs to be given attention in the sustainable development of the resource. Freshwater is a unique and finite resource, and its sustained availability poses one of the most critical modern challenges facing people and the environment globally. According to recent UNEP publication out of the 1.4 billion cubic kilometers of water found on Earth, only 2.5%, approximately 37 million cubic kilometers, constitutes freshwater, out of which around 90 percent is locked up in the polar ice caps and in deep groundwater reservoirs that, for economic

[164] Trail Smelter Arbitral Tribunal Decision, pp 716
[165] The Corfu channel case, at pp 22
[166] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 145
[167] Hildering, *Sustainable Development and Water Management*, pp 100

or technological reasons, are presently inaccessible.[168] The problem is not only related with the quantity of water available but also the quality of it. Environmental degradation, excessive use and abuse of water everywhere, construction of massive dams, toxic dumping, wetland and forest destruction, urban and industrial pollution, factory farming and climate change are posing the greatest threat to both the worlds surface and ground water.[169] This calls for the protection of the water and the watercourse ecosystem.

2.4.3.1. Protection of the Water Resource

The pollution of fresh water resources is a source of many of the world's crisis to day. River pollution may have its source from industrial wastes that are discharged untreated in to water courses, agricultural run-offs and domestic sewage discharges. It is in recognition to this that agenda 21 called up on states to, be it unilaterally or multilaterally, act towards the prevention and control of water pollution.[170]

The 1997 UN water courses convention addresses pollution problems under part IV, where four articles (20 to 23) focus specifically on this issue. Article 21 states:

> 1. For the purpose of this article, 'pollution of an international water-course' means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct.
>
> 2. Watercourse States shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse. Watercourse States shall take steps to harmonize their policies in this connection.
>
> 3. Watercourses States shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:
>
> (a) Setting joint water quality objectives and criteria;

[168] United Nations Environment Programme, *greening of water law*, pp 2
[169] Elver, "Water and the Future," pp 890-91
[170] Agenda 21, chapter 18 Para 40

(b) Establishing techniques and practices to address pollution from point and non-point sources;

(c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

The first paragraph of this provision refers to "pollution" as "any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct." The critical paragraph is the second paragraph, the core obligation under this provision is the obligation to "prevent, reduce and control pollution of an international watercourse that may cause significant harm to other watercourse states or to their environment". There isn't much doubt as to the place of the obligation, under customary international law, as several international instruments, international decisions, international declarations, and a number of watercourse agreements show that there is a well grounded state practice.[171]

McCaffrey raises certain questions with regard to the relation between article 5 (the equitable and reasonable utilization principle) and article 21(2) of the convention.[172] According to him since the ILC in its commentary has stated that article 21(2) is a specific application of the general principles contained in article 5 and 7, and since the working group of the UNGA, that negotiated the convention has stated that it had referred to the ILC's commentaries throughout the elaboration of the draft convention, it can be presumed that article 21(2) of the convention is also the specific application of articles 5 and 7.[173] If this is the case then, he asks, how can article 5 come in to play, even though it has not been referred to under article 21(2)?And what is the nature of the obligation under article 21(2), is it strict or one of due diligence?[174]

In response to the first question he states that:

"….one possibility is that equitable and reasonable utilization is the overreaching principle governing any use of an international watercourse and as such it would apply to pollution. Alternatively it could be argued that as a lex specialis, article 21 paragraph 2's rule of no significant pollution harm should prevail over the

[171] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 555
[172] McCaffrey, *law of international watercourses*, pp 450
[173] McCaffrey, *law of international watercourses*, pp 450
[174] McCaffrey, *law of international watercourses*, pp 450

> general principle of equitable utilization. But the ILC regarded article 21 a specific application of not only the no harm rule of article 7, but also article 5's rule of equitable and reasonable utilization. Since significant harm is the only standard contained in paragraph 2 and equitable and reasonable utilization is not mentioned, it is reasonable to conclude that what the ILC intended was that a use becomes inequitable and unreasonable to the extent that it causes significant pollution harm to other water course states."[175]

The position held by Birnie and et al is somehow different from what is held by McCaffrey. According to them the only plausible reading of article 7(1), 20 and 21 is that these obligations of due diligence are not themselves subject to equitable balancing but must be complied with independently of any claim of equitable utilization.[176] In this line of argument equity will come to the picture, in relation to pollution and environmental protection of an international watercourse, only when, despite taking all appropriate measures a significant harm results and calls for the negotiation of an equitable solution as per article 7(2).[177]

With regard to the nature of the obligation McCaffrey held that the obligation envisaged under the provision is that of "due diligence", but it should also be understood that as polluting substances become more dangerous the level of the required diligence increases to the extent of turning the obligation to a strict one, depending on the level of danger posed by the polluting substance.[178]

A support for this conclusion can be derived from the "prevent, reduce and control" formula under article 21, which is intended to allow for differentiation in measures taken with regard to new or existing sources of pollution, in effect sending the message that there is no absolute obligation of prevention.[179]

According to article 22 of the convention new or alien species which may have detrimental effects on the ecosystem resulting in significant harm to other watercourse states should not be introduced, and as per article 23 watercourse states are required to take all measures necessary to protect and preserve the marine environment, taking into account generally accepted international rules and standards. Unlike articles 21 and 22, article 23 does

[175] McCaffrey, *law of international watercourses*, pp 450
[176] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 552
[177] Birnie, Boyle and Redgwell, *International Law and the Environment,* pp 552
[178] McCaffrey, *law of international watercourses*, pp 451
[179] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 556

not refer to harm that may be caused to other watercourse states, but provides a general obligation to protect and preserve the marine environment.

2.4.3.2. Obligation to Protect the Ecosystem of international watercourses

The need to protect the ecosystem of international watercourses is provided for under the UN watercourse convention. Article 20 provides that, "Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses." The obligation to "preserve" mainly relates to fresh water ecosystems in their original condition, while the duty to "protect" on the other hand is an application of the precautionary approach.[180]

This provision sends the clear message that the environmental obligations of watercourse states are not limited to protecting other state or the water in the river from pollution, but also extends to protecting the ecosystem of international watercourses. Article 22 deals with the introduction of new or alien species detrimental to the ecosystem. It provides that; "Watercourses States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States."

The ILC purposefully chose to use the term "ecosystem" than "environment" because:

> "["The Environment"] could be interpreted quite broadly, to apply to areas "surrounding" the watercourses that have minimal bearing on the protection and preservation of the watercourse itself. Furthermore, the term "environment" of a watercourse might be construed to refer only to areas outside the watercourse, which is of course not the intention of the Commission. For these reasons, the Commission preferred to utilize the term "ecosystem" which is believed to have a more precise scientific and legal meaning."[181]

The ILC defined "ecosystem" as "an ecological unit consisting of living and non-living components that are interdependent and function as a community."[182] Such careful choice of the word might not have as such limited the potential scope of the obligation, as Birnie and et

[180] Hildering, *Sustainable Development and Water Management*, pp 131

[181] Commentary to Draft Articles on the Law of the Non-navigational Uses of IWC, in Report of the International Law Commission on the work of its forty-sixth session, UN GAOR, 49th Sess. ,Supp. (No. 10), U.N. Doc. A/49/10 (1994) quoted in Rieu-Clarke, A Fresh Approach to International Law pp 181

[182] Commentary to Draft Articles on the Law of the Non-navigational Uses of International Watercourses, in Report of the International Law Commission on the work of its forty-sixth session, UN GAOR, 49th Sess.,Supp. (No. 10), U.N. Doc. A/49/10 (1994) quoted in Rieu-Clarke, A Fresh Approach to International Law pp 181

al, stated any attempt to protect a river "ecosystem" cannot avoid affecting the surrounding land areas or their "environment".[183]

[183] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 559

CHAPTER THREE

GENERAL BACK GROUND TO THE EASTERN NILE BASIN

3.1. INTRODUCTION

The Nile has two major head water basins; the white Nile with the equatorial lakes and the Eastern Nile with numerous tributaries and the head water of Lake Tana.[184] The Eastern Nile comprises of upstream Ethiopia with the Abbay/Blue Nile, Tekeze/Atbara and the Baro Akobo Sobat sub systems on one hand and downstream Sudan and Egypt on the other.[185]

Some writers suggest three particular aspects of the Nile basin that might give rise to conflict over the sustainable utilization and management of its water.[186] First the Nile, though the longest river in the world, shows the lowest specific discharge. Given the growing population in the region and due to the resulting increase in demand, the water will soon face scarcity due to over exploitation in a disintegrated manner. Secondly there is a great contrast between riparian states in terms of water use, where the state (Ethiopia) contributing almost 85% of the Nile water consumes near to none and the state (Egypt) contributing nothing uses most of the water resource. This lopsided development of the water resource not only lacks equitability, but also has led to the undertaking of unsustainable projects in downstream of the river. One major example of such project is the Aswan High Dum, due to which considerable amount of water is lost through evaporation every year. Thirdly as most of the basin states share the common character of being poor and dependent on farming economy, with rapidly growing population, utilizing the scarcely available water becomes urgent. This might lead to unsustainable utilization of the river as all basin states may resort to unilateral measures to utilize the water with in their territory to meet the challenges they face. In addition to this, environmental degradation and unsettled political conditions are overreaching issues in the basin, posing significant threats for food security and the social welfare of the Nile inhabitants.[187]

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[184] Arsano, "Ethiopia and the Nile." Pp 82

[185] Arsano, "Ethiopia and the Nile." Pp 82

[186] Kliot, *Water Resources and Conflict*. Pp 13

[187] Mohamed and Loulseged, "Nile Basin Water Resources." PP 1

3.2. GEOPOLITICS OF THE EAST NILE BASIN

As it is a natural resource that crosses several political boundaries, every country through which it flows will have its own interest over the water. These diversified interests the co riparian states have over the water will definitely lead to competition over its use and geopolitical complications making a cooperative and integrated development of the river even more difficult.

Among the riparian states in the basin Egypt considers itself the most vulnerable of all, not only because of its geographical position as the most downstream state but also, and mainly so, because it heavily depend on the waters of the Nile. It has for long developed the Nile waters for several economic purposes, from agriculture to hydropower production, industry, services and tourism.[188] 85% of its population live within the Nile river basin[189], 96% its fresh water supply comes from the Nile, 50% of the cereals for consumption are grown on the waters of the Nile while the remaining 50% is imported, and despite it makes use of most of the water of the river some parts of the country still have difficulties growing food.[190] For this and for other several reasons Egypt considers the Nile as the key to its sustenance and considers any threat to the flow of the river, as it had done for time immemorial, as a threat to its national security.[191] And its foreign policy interests towards its upstream neighbors have always been shaped by the geo-strategic, and economic and political environmental factors within the Nile River basin and the behavior of the riparian states.[192]

The two middle and upstream states in the East Nile Basin, Sudan and Ethiopia are far behind Egypt, both in terms of water utilization and economic development. Ethiopia, despite being the source for more than 85% of the Nile waters is among the worlds' poorest and hungry, where millions suffer from drought and food shortage every year. These problems are the result of economical and political problems the country has passed through which hindered it from utilizing its potential. No more than 1 per cent of water resources are put to use, Irrigated land is less than 4 per cent of potential, and less than 30 per cent of the population has access to potable

[188] Cascão, "New Nile treaty." pp 141
[189] Adar, "National Interest and Regional Stability." pp.4
[190] Amdetsion, "Scrutinizing the Scorpion Problematique." pp 6-7
[191] Hassan and Al Rasheedy, "The Nile River and Egyptian Foreign Policy." pp.29
[192] Hassan and Al Rasheedy, "The Nile River and Egyptian Foreign Policy." pp.29

water, while only 2 per cent of the hydro-power potential is being used.[193] Since the 1990s however it moved to undertake unilateral activities to develop the water of the Nile to meet its developmental needs.[194] This effort was, however, mate with fierce resistance from Egypt and the latter managed to successfully block the African Development Bank from assisting Ethiopia financially with its proposed water development projects.[195] Such measures were taken by Egypt because; Ethiopia at that time would not realize its development projects without the assistance of other sources like the African Development Bank due to capacity constraints.

Sudan, the other beneficiary form the waters of the Nile next to Egypt, has not always been happy about the water allocation in the region. It is where most of the major tributaries of the Nile meet and 63% of the basin area is found.[196] 70% of Sudan's territory falls within the Nile Basin, while 85% of its population depends for their lively hood on the river Nile.[197] Sudan's interest over the river is guided by its aspiration for development and the need to protect the people living near the banks of the Nile from flooding.[198] It was guaranteed 4 billion cubic meters per year of the Nile waters by the 1929 agreement between Egypt and Britain which also reserved a total annual amount of 48 BCM/yr for Egypt.[199] After securing its independence in 1956, Sudan demanded that the 1929 agreement be revisited, and this Sudanese attitude led relations between the two to degrade in to military confrontation. This was resolved by the 1959 agreement,[200] which Egypt managed to enter with the military regime that gained power in 1958, which allocated 55.5 BCM/yr for Egypt and 18.5 BCM/yr for Sudan, without taking into consideration the interests of the remaining riparian states.[201] The water allocated to Sudan by this agreement, though puts it in a better position than the other riparian states, it could only irrigate 1% of the country's potentially arable land.[202]

As a hydrological unit the Nile presents an opportunity for integrated and cooperative management and use of the water tying the three countries together. However, these diversified

[193] Asfaw, Woldesemayat and Demissew, "Ethiopia: Protecting nature in a developing decentralized country," 111-139**,** pp118
[194] Swain, "the Nile River Basin Initiative." pp 298
[195] Swain, "the Nile River Basin Initiative." pp 298
[196] Hamad and El-Battahani "Sudan and the Nile Basin" pp 30
[197] Hamad and El-Battahani "Sudan and the Nile Basin" pp 30
[198] Mason. "From Conflict to cooperation" pp 168
[199] Beach, Hammer, Hewitt, Kaufman, Kurki, Oppenheimer, and Wolf, *trans-boundary freshwater dispute resolution,* pp 112
[200] A detailed discussion on the 1929 and 1959 agreements is held in subsequent parts
[201] Beach and et al, *trans-boundary freshwater dispute resolution* pp 113
[202] Hamad and El-Battahani "Sudan and the Nile Basin" pp 30

interests made the basin states to look at each other rather in suspicion and led to a tense relation characterized by threat on one another.

3.3. AGREEMENTS ON THE NILE AND RIPARIAN ATTITUDE

The current tension in the Nile basin is the result of the historical development of the colonial period. Most of the agreements signed on the consumptive usage of the Nile water have been colonial agreements and these agreements were inspired by Great Britain which managed to secure the water of the Nile for Egypt and Sudan making Egypt the ultimate beneficiary.[203] The British had always moved to protect its (Egypt's) interest on the Nile River to protect its colonial economic interests. This is witnessed in the protocol signed between Italy and the GB in 1891, the treaty regarding the frontiers between Anglo- Egyptian Sudan, Ethiopia and British Eritrea of 1902 between Ethiopia and GB, GB Congo treaty to redefine their respective spheres of influence in Eastern and Central Africa of 1906, and the Nile water agreement of 1929 (Egypt and GB) and many others.[204] Another important agreement in the post independent period is the 1959 agreement between Egypt and Sudan.

3.3.1. The 1929 Agreement Between Egypt and Britain

This agreement assured for Egypt a minimum of 48 billion cubic meters per year, as against 4 billion for the Sudan, without taking in to consideration the remaining riparian states' interest.[205] This agreement guaranteed Egypt that no works were to be constructed on the Nile or its tributaries in the then British colonies in a manner that would alter the flows entering Egypt without her prior approval.[206]

As can very well be expected this agreement didn't suit the East African states that by then were under the British colony. Up on independence they expressed their opposition to the treaty[207] and followed what came to be known as the Nyerere doctrine,[208] which holds that

[203] Kliot, *Water Resources and Conflict* Pp 67

[204] Jacobs. "Sharing the gifts of the Nile" pp 106- 109
[205] Swain, "Ethiopia, the Sudan, and Egypt" pp 677
[206] Swain, "Ethiopia, the Sudan, and Egypt" pp 677
[207] Okoth-Owiro, "State Succession and International Treaty Commitments" Pp 13
[208] The Nyerere Doctrine was articulated in a note sent to Cairo by the Tanzanian government in 1962, in which it proclaimed an agreement purporting to bind upstream riparian states in perpetuity, to secure Egyptian consent before undertaking its own development programs based on its own resources is considered to be incompatible with

colonial agreements are null and void except when they enshrine principles recognized by international law.[209] This doctrine is related to what is known as the "tabula rasa" or "clean slate doctrine" where a newly independent state will not have the treaty rights and obligations of the old state of course subject to the norms of customary international law.[210]

3.3.2. The 1959 Agreement Between Egypt and Sudan

This was an agreement signed between two independent states, Egypt and Sudan in 1959. These states didn't show any interest to invite or consult the upstream states when entering in to an agreement for the full utilization of the waters of the Nile River,[211] which by all reasoning should have been equitably allocated among all riparian states. Being one among the upstream states Ethiopia has declared that it reserved its sovereign rights to use the water resources of the Nile within its territorial bounds.[212] The agreement allocated 55.5 BCM/year of the water for Egypt and Sudan's allocation was raised from 4 BCM in the 1929 agreement to 18.5 BCM/year of the 84 BCM average annual flow of the river, the remaining 10 BCM was estimated to be lost through evaporation.[213]

This agreement has also foreseen a possibility where the average annual flow of the river may increase in which case the two countries will share the resulting increment in equal shares.[214] They also committed themselves not to negotiate unilaterally with any third party over the Nile waters and to adopt a unified view.[215] This has proved to be one of the obstacles that come to the scene whenever there is negotiation for cooperation among riparian states siding Egypt and Sudan on one side as opposed to the rest of the riparian states.

Though the title of the 1959 treaty reads 'agreement for the full utilization of the Nile', it falls short to serve as an instrument for a basin wide water management in the modern times.

Tanganyika's status as a sovereign state because such new states never took part in the negotiations creating the obligations under the treaties.
Knobelsdorf, "The Nile Waters Agreements" Pp 622, 632-633, Maloney, "Succession of States in Respect of Treaties" pp 894-895

[209] Amdetsion, "Scrutinizing the Scorpion Problematique" pp 23

[210] Shaw, *International Law* Pp 882

[211] Arsano, "Ethiopia and the Nile" Pp 100, Kliot, Water Resources and Conflict Pp 70

[212] Arsano, "Ethiopia and the Nile" Pp 1oo, Kliot, Water Resources and Conflict Pp 70, John Waterbury, "Is the status quo in the Nile Basin viable" pp 288, Laudicina, "International Water Disputes" Pp 242

[213] Mason. "From Conflict to cooperation" pp 184

[214] Mason. "From Conflict to cooperation" pp 184

[215] Article 5 of the 1959 agreement; Swain, "Ethiopia, the Sudan, and Egypt" pp 679, Dellapenna, "Rivers as Legal Structures," pp 242

Mainly because it fails to include all the riparian states as state parties to the agreement and does not recognize their right to use the common resource. It can legitimately be said that there is no all inclusive legal regime in the basin. Therefore the management and utilization of the Nile River should be governed by customary international law where the guiding principle is equitable and reasonable utilization.[216] The treaty also fails to address broader issues such as water quality, flood control or environmental protection.[217] Hence the Nile basin states need a new all inclusive legal and institutional mechanism to address current environmental and water allocation issues.

3.4. HISTORY OF COOPERATION IN THE BASIN

The Nile with all its problems and confrontations has also been a point of discussion for cooperation. As it is one of the longest Trans Boundary Rivers that cross through ten African countries, it presents a great challenge when it comes to its utilization. The challenges vary from poverty eradication, water sharing, environmental degradation, national and regional security and many more others. Making things worst is the fact that most of the basin states are among the world's least developed countries with a rapidly growing population. Building a cooperative environment in the Nile basin is not an easy task not only because of scarcity of the resource but also due to the prevalence of mistrust among the riparian states. This is very much reflected in the many activities undertaken in order to come up with a basin wide cooperative framework.

The widely known basin wide multilateral cooperative efforts are the Hydro-Met, the Undugu, TECCONILE and the Nile Basin Initiative.

3.4.1. Hydro-Met

Hydro-Met, known as the hydro-meteorological survey of lakes Victoria, Kyoga, and Albert, was launched by Egypt, Kenya, Sudan, Tanzania and Uganda in 1967 with the assistance of the United Nations Development Program (UNDP) and the World Meteorological Organization.[218] The basic objective of the project was to collect and analyze hydrological and meteorological data in the great lake catchments area.[219] The more specific task of Hydro-Met

[216] Okoth-Owiro, "State Succession and International Treaty Commitments" Pp 21
[217] Brunnee and Toope, "The Changing Nile Basin Regime" pp 125
[218] Swain, "the Nile River Basin Initiative" pp 298
[219] Beyene and Wadley, "Common goods and the common good" pp 30

included an evaluation of water balances in the Lake Victoria catchments, in order to control and regulate the lake's level as well as the flow of water through the lake.[220] Ethiopia participated as an observing member as of 1971. Apart from gathering some useful meteorological data it is criticized for not bringing about any substantive impact on harmonizing the upstream downstream polarization of interests.[221]

3.4.2. Undugu

This is another initiation by Egypt to which Egypt, Sudan, Uganda, Congo Democratic Republic and Central African Republic (though Central African Republic is not a Nile basin state) were founding members. Its objective was to create cooperation in such common fields as culture, environment, telecommunication, electric power trade, and water resources development.[222] Undugu which in Swahili meant brotherhood was however not formed to address the real issues of concern namely the utilization and management of the Nile waters. As a result Ethiopia, Kenya and Tanzania limited their participation in Undugu to being an observer.[223]

It seems that without the active participation of significant riparian states and without focusing on the fundamental question of water utilization and management, it was clear that this grouping wouldn't have had a lasting effect.

3.4.3. TECCONILE

In December 1992, Ministers responsible for water affairs in the Nile basin countries met in Kampala, Uganda, and agreed that future co-operation on water resource matters should be pursued. They agreed that these matters should be pursued for a transitional period, under the name 'Technical Co-operation for the Promotion of the Development and Environmental Protection of the Nile Basin' (TECCONILE).[224] Egypt, Sudan, Rwanda, Tanzania, Uganda, and Congo participated as founding members while the rest basin states participated as an observer.

[220] Arsano, "Ethiopia and the Nile" Pp 213
[221] Arsano, "Ethiopia and the Nile" Pp 214
[222] Arsano, "Ethiopia and the Nile" Pp 213
[223] Arsano and Tamrat, "Ethiopia and the Eastern Nile" pp 19

[224] Metawie, "History of co-operation in the Nile" pp 54

TECCONILE was charged with the task of preparing an agreement for the establishment of a regional organization by including the riparian countries who chose to be observers.[225] This however was a long term plan as compared to the short term plans which focus on operational and technical matters, like developing national water master plans, infrastructures, capacity building; and to promote inter-country cooperation for integrated and sustainable development of the Nile waters by its riparian countries.[226] From the perspective of Ethiopia establishment of the legal and institutional framework should have been given top priority than being a long term plan.[227] The only significant achievement of the TECCONILE, as some suggest is, its modest contribution towards the Nile Basin Action Plan activities.[228]

In summery it can be concluded that these institutions share the common feature of not having all riparian states as members, emphasized technical matters and environmental data collection and other subsidiary matters instead of grand policy issues and as a result remained temporary instruments to advance particular interests instead of striving to permanently close the gap between the riparian interests.[229]

3.4.4. The Nile Basin Initiative

Nile basin countries untied for the first time in 1992 to pursue a joint dialogue on sustainable development and management of the Nile waters.[230] In 1995 council of ministers of water affairs of Nile basin states endorsed the Nile River Basin Action Plan that identified several projects of regional and sub regional interests one among which is the Nile Basin Cooperative Framework also known as project D3.[231] The establishment of the NBI owes its genesis very much to the D3 project as it brought all parties together.[232] In 1999 Nile riparian countries launched the Nile Basin Initiative (NBI), a joint program of action whose aim is to ensure cooperation and economic integration, sustainable resource development and security.[233] The NBI hopes to facilitate cooperation among basin sates. The four goals of NBI are building confidence among the basin states, changing perceptions on the issues of the Nile waters,

[225] Walilegne, "The Nile Basin" pp 523
[226] United Nations Economic Commission for Africa, "Water Development in Africa" pp 50
[227] Arsano, "Ethiopia and the Nile" Pp 215
[228] Arsano, "Ethiopia and the Nile" Pp 216
[229] Frew, "Challenges and Opportunities of the Nile Basin Initiative" pp 151
[230] Wiebe, "Potential for Conflict and Cooperation" pp 751
[231] Beyene and Wadley, "Common goods and the common good" pp 31
[232] Frew "Challenges and Opportunities of the Nile Basin Initiative" pp 152
[233] Teshome. "Trans-boundary Water Cooperation in Africa" pp 35

realizing that cooperation is more beneficial than confrontation, and knowing the extent of the water resource potential for interstate collaboration, and its explicit motto is "sustainable development of the river Nile for the benefit of all."[234]

The NBI has two programs each representing a separate level of operation. These are the Shared Vision Program (SVP)[235] at the macro basin level and the Subsidiary Action Program (SAP) at the sub basin level.[236] The purpose of SAP is to initiate joint investments at the sub-basin levels. This comprises of the Nile Equatorial Lakes Subsidiary Action Program (NELSAP), and the Eastern Nile Subsidiary Action Program (ENSAP).[237] The Eastern Nile Subsidiary Action Program (ENSAP) is an investment program by the Governments of Egypt, Ethiopia and the Sudan under the umbrella of the Nile Basin Initiative (NBI). It is led by the Eastern Nile Council of Ministers (ENCOM), comprised of the Water Ministers in the three Eastern Nile countries, and an ENSAP Team (ENSAPT) formed of three technical country teams. The objective of ENSAP is to achieve joint action on the ground to promote poverty alleviation, economic growth and reversal of environmental degradation.[238] The Eastern Nile Technical Regional Office (ENTRO) was established by an ENCOM decision in 2001 to manage and coordinate ENSAP project, and to capacitate and strengthen institutions and provide secretariat support to ENCOM/ENSAPT.[239]

The primary objectives of ENSAP are to: (a) ensure efficient water management and optimal use of resources through equitable utilization and causing no significant harm; (b) ensure cooperation and joint action between the Eastern Nile countries seeking win-win gains; (c) target poverty eradication and promote economic integration; and (d) ensure that ENSAP results in a move from planning to action.[240]

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[234] Arsano, "Ethiopia and the Nile" Pp 216-217

[235] The shared vision program comprises of seven thematic projects which are; Nile Trans-boundary Environmental Action project, Water Resource Planning and Management Project, Socio-Economic Development and Benefit Sharing Project, confidence Building and Stakeholder involvement project, Nile basin regional power trade project, Applied training project, and efficient use of water for agriculture project.

[236] Metawie, "History of co-operation in the Nile" pp 55

[237] Teshome. "Trans-boundary Water Cooperation in Africa" pp 36

[238] http://www.nilebasin.org/index.php?option=com_content&task=view&id=27&Itemid=37 last accessed 10/27/2010

[239] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=44&Itemid=67 last accessed 10/27/2010

[240] Mohamed and Loulseged, "Nile Basin Water Resources" PP 4

As the NBI is a transitional arrangement, it is one of its mandates to serve as a forum where deliberation among stake holders take place until a permanent legal and institutional frame work is in place.[241] In 2003 Nile Basin states established the Nile basin cooperative frame work negotiation committee to recommend a comprehensive legal agreement for reallocation of the Nile waters.[242] The main target of such negotiations is to come up with an agreement or convention to establish a Nile River Commission. This process led to the negotiations of the Nile Cooperative Framework Agreement (CFA).

After years of negotiation the CFA opened for signature in Uganda as of the 14th of May 2010 and will remain open for one year until the 13th of May 2011. Ethiopia, Tanzania Rwanda and Uganda singed on the same day.[243] Burundi and DRC are expected to sign soon while Egypt strongly opposed the fact that the riparian states signed the agreement before certain disagreements were settled.[244] In an interview he gave the Ethiopian prime mister Meles Zenawi expressed his disagreement with the Egyptian opposition and labeled it old fashioned.[245] In the mean time Kenya became the fifth country when its minster of waters singed the CFA on May 19, 2010.

[241] Wiebe, "Potential for Conflict and Cooperation" pp 751
[242] Amdetsion, "Scrutinizing the Scorpion Problematique" pp 38
243. http://www.nilebasin.org/index.php?option=com-frontpage&itemid=1, accessed June 03 2010.
244 http://english.aljazeera.net/news/africa/2010/05/2010519183943413127.html last accessed 12/30/10.
[245] http://english.aljazeera.net/news/africa/2010/05/2010519183943413127.html last accessed 12/30/10.

CHAPTER FOUR

THE QUEST FOR SUSTAINABLE DEVELOPMENT

4.1. INTRODUCTION

The population in the basin is bound to double in the next few decades, the demand for water for household uses, agriculture, hydroelectric power and other uses will increase, as a result of which the resource will come under immense pressure.

As has been discussed elsewhere nations are expected to provide access to water for basic needs, which should be sufficient in quantity, safe, and accessible. Furthermore it is inevitable that they will strive to utilize the resource to enhance their economic capacity, through irrigated agriculture and hydropower generation. These activities require that the water be allocated/ utilized in an equitable manner among riparian states. In addition to use of the water an equally important point would be the need to protect the resource from pollution and degradation. Meeting these needs takes a great deal of balancing between the social and economic development and environmental protection. These can be realized through the sustainable development of the Nile in the ENB. These however could not be achieved without the recognition that each basin state has as much right as the rest, and also an obligation in the utilization of the water resource.

It seems under such impression that the Nile basin states have for long been trying to negotiate an all inclusive framework for the use, protection and conservation of the Nile, with in which all the basin states will benefit from the waters of the river in an equitable and reasonable manner. This effort culminated in the establishment of the NBI, as a transitional body. Using the NBI as a medium they plan to work together towards the sustainable development of the river and at the same time negotiate for a new legal and institutional mechanism to permanently solve issues related to the allocation/use, conservation and protection of the river.

4.2. CURRENT DEVELOPMENTS

4.2.1. The Search for a New Legal Regime

Among many international watercourses the Nile is one without a basin wide, all inclusive and comprehensive legal regimes. The agreement currently effective, only between Egypt and Sudan, is the 1959 agreement signed between the two for "the full utilization of the Nile." Egypt also claims that the 1929 agreement between itself and the British has guaranteed it a veto right over upstream hydro projects. The 1959 agreement not only ignores the interest of other riparian states over the water resources of the Nile, but also the cardinal issues of modern day water sharing and management, such as equitable and reasonable utilization, protection of the water resources and the ecosystem thereof.[246]

This may mainly be due to the fact that neither international watercourse law nor environmental law has developed at the time of its making, coupled with the incapacity of the rest basin states to ascertain their interest in the basin due to reasons tied to colonization and instability. This cannot however be raised as a defense for maintaining the status quo in the basin, as developments under international law and in the region require it to be revisited in accordance with contemporary thinking and developments.

Under International water law, the negotiation and adoption of the 1997 UN watercourses convention has had influenced many regional and basin level agreements on international watercourses. Some among them are the Revised Protocol on shared water resources in the Southern African Development Community (SADC) of 2000, the 1992 Convention on the protection and use of Trans boundary water courses and lakes, adopted under the aegis of the UN Economic Commission for Europe, the 1995 Agreement on the cooperation for the sustainable development of the Mekong River Basin, Protocol for the Sustainable Development of Lake Victoria of 2003,[247] and Senegal River water Charter of 2002.[248] Though still short of the required amount of ratifications, the convention seems, in this regard, to be playing the role it is intended to play, which is 'to be a framework agreement, flexible and open to a degree of interpretation, designed to accommodate the development of more specific bilateral and

[246] Walilegne, "The Nile Basin," pp 510
[247] Protocol for the sustainable development of lake Victoria basin of 29 November 2003 accessed at http://internationalwaterlaw.org/documents/regionaldocs/Lake_Victoria_Basin_2003.pdf last visited 12/23/10
[248] Senegal River Water Charter 2002

multilateral agreements related to the use, management, and preservation of trans boundary water resources.'[249]

Development of concerns with regard to protection of the environment and natural resources has also influenced the change of attitude at the international level in relation to the management of international water courses. The international court of justice, in its judgment in the Gabcikovo-Nagymoros case, has held that, though the 1977 treaty between the parties (to the case) continues to govern operation of the Dam, "it is not static, and is open to adapt to emerging norms of international law."[250] And, therefore, called up on the parties to look afresh at the effects on the environment of the operation, sending the message that such new norms and standards need to be taken in to consideration not only when states contemplate new activities but also when continuing activities begun in the past.[251] This line of argument can be used in relation to other older watercourse treaties, one important, among such, being the 1959 Nile river agreement.[252] Seen in this light this agreement falls short of the norms and standards developed through times, which are the head corner stone of modern day water use, conservation, development and management.

Nile Basin states, as against the stand of Egypt and Sudan, have always objected the current water allocation in the region. This is mainly triggered by the growing population, prevailing poverty, and drought and food shortage in almost all basin states. They have always, in different circumstances, shown their stand against the binding nature of previous bilateral agreements. Therefore, for this and other reasons the basin states came to the understanding that, there is a need for negotiation on the management and allocation of the Nile waters. This led to the coming together of the riparian states to pursue a joint dialogue on sustainable development and management of the Nile waters in 1992.[253] Such movements led to the founding of the NBI in 1999, where 9 of the ten riparian states participated as a member while the tenth, Eritrea, participated with an observer status. The NBI has been a transitional arrangement until a permanent frame work will be in place. The states have been negotiating for over ten years over a framework agreement under the auspices of the NBI, which was opened for signature in 2010,

[249] Eckstein, "Development of International Water Law and the UN Watercourse Convention" 81-96, pp 88, McCaffrey, "Watercourses Convention: Retrospect and Prospect," pp 172
[250] Gabcikovo-Nagymoros Case Judgment Para 112
[251] Gabcikovo-Nagymoros Case Judgment Para 140
[252] Birnie, Boyle and Redgwell, *International Law and the Environment*, pp 563
[253] Wiebe, "Potential for Conflict and Cooperation" pp 751

despite opposition from Egypt and Sudan. The negotiation was not about the amount of water to be allocated to each and every riparian state in the basin, rather its focus was reaching an agreement on the principles of water use, development, conservation and management.

Although agreement was reached on several provisions, there were and still are disagreements on some substantive issues in the document. The issues that were controversial relate to the status of existing agreements, the concept of water security, as well as procedures related to planed projects within the Nile Basin.[254] Egypt and Sudan, first insisted that a provision be included in the framework agreement that reads, "The principles and framework are without prejudice to existing agreements" while the other riparian states preferred "the principle that the existing agreements conform to the framework."[255] Had the stand of the two most downstream countries was maintained the whole negotiation would have gone back to square one, as the main aim of the negotiations was to change the prevailing and lopsided water allocation and management in the basin.

Once understanding that the existing agreement cannot be maintained Egypt especially, and also the Sudanese resorted to a the concept of "water security" on which they insisted that there be included a clause in the agreement which provides that the basin states will use the waters of the Nile in a manner that does not affect the water security and current uses and rights of other riparian state.[256] This indirectly is a means to preserve the status quo in the region, therefore was found unacceptable by Ethiopia and the other upper basin states.[257] The outstanding controversy, at the opening of the CFA for signature, remained to be the "water security" issue.

The Cooperative Framework Agreement has 44 articles, classified under six parts, which are General Principles, Right and Obligations, Institutional Structure, Subsidiary Institutions, Miscellaneous Provisions, and Final clauses. In the subsequent parts the agreement will be assessed.[258]

The significance of the Nile waters as both a source of social and economic wellbeing of the basin states and their population, as well as the unifying nature of the River and the need to

[254] ወልደ ጊዮርጊስ፣ ለአባይ ውሃ መግት፣ ገጽ 258-259
[255] Arsano and Tamrat, "Ethiopia and the Eastern Nile," pp 23
[256] ወልደ ጊዮርጊስ፣ ለአባይ ውሃ መግት፣ ገጽ 260-261
[257] ወልደ ጊዮርጊስ፣ ለአባይ ውሃ መግት፣ ገጽ 260-261
[258] This assessment is based on the draft cooperative framework agreement accessed at: http://internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010pdf as the final version of the agreement is not available in public

cooperate for the sustainable development of the same has once again been recognized under the draft cooperative agreement.[259] It is also stated that the signing of the CFA would promote integrated water management, sustainable development, and harmonious utilization of the water resource as well as their conservation and protection for the benefit of the present and future generations in the basin.[260]

The CFA is meant to apply to the use, development, conservation and management of the Nile River Basin, establishing an institutional mechanism to this effect.[261] To realize such goals the CFA sets out several principles under part I, among which some are familiar principles at the international arena in relation to water courses, while others are less known in the mainstream.[262] This is mainly because, as the nature of water courses differ from one basin to the other, different basin level agreements hold their own peculiar nature as a reflection of the specific characteristic of the water course they apply to.[263] The principles of cooperation, equitable and reasonable utilization, the no significant harm rule, and exchange of data and information[264] are among the well recognized principles under international water law.

In addition to these principles the CFA has explicitly included important principles like sustainable development, Subsidiarty, community of interest, exchange of information concerning planed measures, protection and conservation of the water resources, the right of Nile Basin states to use water with in their territories, environmental impact assessment, treating water as a finite and vulnerable resource, peace full settlement of dispute, and the social and economic value of water.[265] Another principle in the CFA worth mentioning is "water security," which has been one of the reasons that made the signing of the agreement both slow and controversial. It is defined under the agreement as "the right of all Nile Basin States to reliable access to and use of the Nile River system for health, agriculture, livelihoods, production and environment."[266] This principle is adopted under article 3(15) of the agreement and article 14(a) provides that the basin states will work together towards achieving and sustaining water security

[259] CFA preamble paras. 1, 2 and 3.
[260] CFA preamble para. 4
[261] CFA preamble Article 1
[262] http://www.internationalwaterlaw.org/blog/?p=271
[263] Laurence Boisson de Chazournes, "Freshwater and International Law," Pp **5**
[264] CFA articles 3(1), 3(4), 3(5) and 3(10)
[265] CFA article 3(2), 3(3), 3(9), 3(8), 3(7), 3(6), 3(11), 3(13), 3(12), and 3(14). respectively
[266] CFA article 2(f)

for all states. The riparian states failed to reach an agreement on article 14(b), which therefore will be left to the river commission, which will be established, to decide and resolve the issue.[267]

This is not only feared to be a challenge for the CFA in coming in to force but also some believe that including the concept of "water security" in the agreement was not a wise move by the riparian states, mainly so because it is a 'non legal and indeterminate' concept that is meant to serve the ambition of the downstream states to maintain the 'anachronistic and non-viable' status quo.[268] On the other hand it is believed that such ambiguity plays a constructive role, by increasing flexibility in stiff negotiations; helping to accommodate the divergent interests involved; defusing, to a certain extent, the conflictive positions of the negotiators; creating room for the riparian states to reach an agreement through political compromise; and, it can possibly be used to steer the enduring negotiations towards a final agreement.[269] Be it for one or the other reason that it is included in the CFA, this concept still carries a challenge to the realization of a new legal and institutional regime in the basin.

4.2.1.1. Rights and Obligations of Riparian States

The CFA also lays certain rights and obligations the riparian states will have in utilizing the water resources of the Nile River. Article 4 of the agreement stipulates that the use of waters of the Nile should be guided by the principle of equitable and reasonable utilization, in a manner quite similar to the 1997 UN watercourses convention, only in this case what has been provided under article 5 and 6 of the convention is put under article 4 of the CFA. It provides that Nile Basin States shall in their respective territories utilize the water resources of the Nile River system and the Nile River Basin in an equitable and reasonable manner. It in particular requires that those water resources be used and developed with a view to attaining optimal and sustainable utilization thereof and benefits there from, taking into account the interests of the Basin States concerned, consistent with adequate protection of the water resources. In relation to factors to be considered in determining what amounts to an equitable and reasonable use there

[267] CFA annex on article 14(b)
[268] Mekonnen, "Nile Basin Cooperative Framework Agreement," pp 438
[269] Cascão, "Use of Ambiguity in trans-boundary river basins negotiations"

are some additions in addition to what is provided under article 6 of the UN convention,[270] such as 'the contribution of each Basin State to the waters of the Nile River system'[271] and 'the extent and proportion of the drainage area in the territory of each Basin State.'[272] With regard to the no harm rule, article 7 of the UN convention is restated under article 5 of the CFA without any substantive change. Article 5 reads:

> "1. Nile Basin States shall, in utilizing Nile River System water resources in their territories, take all appropriate measures to prevent the causing of significant harm to other Basin States.
>
> 2. Where significant harm nevertheless is caused to another Nile Basin State, the States, whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard to the provisions of Article 4 above, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation."

The no harm rule requires Nile basin states to take all appropriate measure to avoid causing a significant harm, while using the water resources. However, if such harm happens to occur, in the absence of a prior agreement to such use, the state whose use caused such harm is expected to take all appropriate measures to mitigate or eliminate such harm and when so

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[270] Article 6(1) of the UN convention provides: "Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

(a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;

(b) The social and economic needs of the watercourse States concerned;

(c) The population dependent on the watercourse in each watercourse State;

(d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;

(e) Existing and potential uses of the watercourse;

(f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(g) The availability of alternatives, of comparable value, to a particular planned or existing use."

[271] CFA article 4(2) h
[272] CFA article 4(2) i

appropriate discuss the possibility of compensation.[273] The possibility of giving compensation serves as an incentive to the basin states to, as much as possible; make sure that their use of the resources won't result in a significant harm.

It has been stated that the second paragraph under article 7 of the UN convention, which reads as:

> "Where significant harm is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm, and where appropriate, to discuss the question of compensation."

Sends the message that an equitable and reasonable utilization may result in an appreciable harm, in which case due regard must be given to the principle of equitable and reasonable utilization in a way suggesting the upper hand taken by the equitable and reasonable utilization rule.[274] Therefore, it is legitimate to say, as it is the case in the UN convention, that the equitable and reasonable utilization rule takes precedence over the no harm rule under the CFA.

Recognizing the equitable right of all riparian states over the waters of the Nile will guarantee them that their use of the water won't be challenged in as long as it is within the limits of their fair share and it would be easier for them to secure investment funds from different nations and international organizations, who usually require cooperation among riparian states to render finance for projects over international watercourses.

The recognition of these principles under the CFA will play an immense role in securing an equitable and reasonable utilization of the resource among the present generations and the generations to come. This equity is an essential component of securing the sustainable development of the river Nile, as has been discussed elsewhere intergenerational equity and intra-generational equity are two of the most important elements of sustainable development.

Though agreeing on such basic principles is a great move forward, the task of putting the principle of Equitable and Reasonable Utilization in to practice will prove to be an uphill task as

[273] CFA article 5
[274] Salman, "Perspectives on International Water Law," pp 634

it requires sophisticated human and institutional capacity and the development of detailed technical guidance to ensure its agreed implementation.

4.2.1.2. Protecting the Water and Its Ecosystem

An equal importance is given to the protection of the water resource and its ecosystem, as is given to the importance of the waters of the Nile for the social and economic development of the riparian states. It is stated under article 3(7) that the basin states will take all appropriate measures, individually and, where appropriate, jointly, for the protection and conservation of the Nile River Basin and its ecosystems. And do so mainly by protecting and improving water quality within the Nile River Basin, preventing the introduction of species, alien or new, into the Nile River system which may have effects detrimental to the ecosystems of the Nile River Basin; protecting and conserving biological diversity within the Nile River Basin; protecting and conserving wetlands within the Nile River Basin; and restoring and rehabilitating the degraded natural resource base.[275] Under the agreement states are also expected to exchange information regarding the condition of the basin's water resources, article 7(1) states that Nile Basin States shall on a regular basis exchange readily available and relevant data and information on existing measures and on the condition of water resources of the Basin. When such information is not readily available the requested state is obliged to make efforts to provide such information and data, but if it decides to, the requested state can ask the costs of collecting such data to be covered by the requesting state, as a precondition to comply.[276] This will enable basin states, especially those in the downstream to take precautionary measures based on the information they have received in their use of the resource.

This spirit of cooperation among basin states is also reflected in other provisions of the framework agreement. For instance regarding planed measures (article 8), in preventing and mitigating harm full conditions, be it natural or manmade (article 11); and cases of emergency (article 12). Cooperation is quite important in the protection and conservation of trans-boundary resources, and could only be better facilitated by river basin organizations in case of international watercourses.

The basin states are also expected to undertake an environmental impact assessment (EIA) of the projects they intend to implement in the basin in order to identify the impact such

[275] CFA article 6(1) a-e
[276] CFA Article 7(2)

projects may have within their territory and the territory of other basin states.[277] It is important to notice at this juncture that the EIA should be under taken not only to meet the legal requirement to do so but to use resources in an environmentally compatible way and to protect and enhance the environment. It is of great importance to know how activities will affect the environment in advance and to consider these effects early enough so that changes in plans can be made if the potential impacts warrant such changes. EIA will play a significant role in integrating environmental concerns in to development decisions thereby promoting one of the basic elements of sustainable development. The criteria and procedures that help to determine such impact will be developed by the river basin commission to be established.[278] This will ensure uniformity across basin states in the process.

Another significant move in the CFA is the incorporation of the principle of subsidiarty, where the basin states are expected to ensure the participation of all those who will or may be affected by the project, in the planning and implementation of such projects.[279] This principle therefore encourages participatory management which ensures that the local communities play their role in the protection of the basins resource. It further creates the sense of ownership among the local community, which will help enhance proper utilization and conservation. Therefore it is imperative that this participation be a real one than being merely employed for political consumption to legitimize decisions made in advance.

As has been said time and again the demand for water will only increase and meeting such demand is proving to be difficult. The more nations are interested in international water resources the more will be the difficulty to compromise. This situation will make the utilization of the resource even harder for all nations. As can be seen from the discussion above effective utilization of the water resource can better be realized through cooperation than confrontation. One aspect of cooperation is resolving dispute in a peaceful manner. The CFA provides for dispute settlement clauses. It preaches a peace full settlement of disputes that arise in the interpretation and application of the framework agreement, if an agreement is not reached up on.[280] The disputing states are expected to seek solution through good offices, or request conciliation or mediation by the Nile River Basin Commission or any other third party, or agree

[277] CFA article 9(1)
[278] CFA article 9(2)
[279] CFA article 3(3) and 10
[280] CFA article 33

to submit their case to arbitration or the international court of justice.[281] This, if effectively utilized, will contribute to mitigate the long lived tension between the three ENB countries and will encourage cooperation on the basis of agreed terms that are provided under the cooperative framework agreement.

The recognition of the above discussed principles under the CFA will lay the ground for the cooperative management of the Nile in the ENB, in effect enhancing the capacity of the basin states to provide water for basic human needs and economic activities, while at the same time protecting the resource and its ecosystem. Therefore, those principles will have a vital role in realizing sustainable development.

The CFA will enter in to force up on the ratification of the agreement by six of the basin states. Given the position held by two of the three East Nile Basin states not to sign the agreement, it seems the immediate effect it will have on the management of the Nile will be weak as most of the water that leaves Ethiopia go through Sudan and Egypt.

4.2.2. Institutional Mechanisms

It is well established that the role of institutions in the management of international watercourses is immense. In the absence of such cooperation under an institutional mechanism it is inevitable that riparian states resort to unilateral development plans. The East Nile is no different, and such unilateral development plans will inevitably have implications in meeting current and future demands and coping with challenges. The region faces several challenges like climatic variations, flood and drought, land degradation, access to energy, soil erosion and siltation and food insecurity. It is in this understanding that certain efforts where under taken in the basin under the auspices of the NBI/ENSAP.

The ENSAP came up with a project, the Integrated Development of the East Nile (IDEN), which is a regional multi-purpose development-investment program by and for the benefit of the three countries in the East Nile Basin. Within the framework of the IDEN there are seven fast track and multi-purpose truck projects. These are the Eastern Nile Planning Model (ENPM), Flood Preparedness and Early Warning (FPEW), Ethiopia-Sudan Transmission

[281] CFA article 33 (1)a

Interconnection, Eastern Nile Power Trade Investment Study, Irrigation and Development Project, Watershed Management Project, and Baro-Akobo Sobat Multi Purpose Projects.[282]

The fast truck projects are intended to demonstrate early benefits of cooperation by bringing about result on the ground. The Eastern Nile Basin is vulnerable to floods mainly due to the low capacity of flood management in the countries. Therefore one of the fast truck projects under the IDEN project, *FPEW* project, aim at reducing the human suffering and economic damage that is sustained due to flood by establishing a regional institutional means and strengthening the existing capacities of the EN countries in flood forecasting, mitigation and management, promoting regional cooperation as well as enhancing the readiness of the EN countries to implement subsequent phases of FPEW projects.[283] This project is mainly concerned with reducing the damage and the cost of recovery, the regional coordinator for the FPEW project Dr. Babikar Abdalla says, "We focus on and invest in the preparedness aspect. We are less likely to prevent floods from happening. However we can reduce flood damages and recovery costs through diligent preparedness work."[284]

The *Irrigation and Drainage* project is aimed at expanding irrigated agriculture; improving the productivity of existing small-and large-scale agriculture through more efficient water use and better access to market and credit.[285] It is well known that agriculture in the East Nile basin widely relies on rain and unpredictable rain fall patterns has proved to be challenges further complicating the already chronic food insecurity and massive poverty especially in Ethiopia and Sudan. Therefore the successful implementation of this project will mainly contribute to the socio-economic development of the region and its population and further promotes trans-boundary cooperation and regional integration.

Regional power trade has also been identified as one fast truck project. The *East Nile Power Trade Investment Study* is planned to exploit the hydroelectric potential in the basin,

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[282] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=77&Itemid=123 last accessed 12/21/10

[283] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=38&Itemid=125 last accessed 12/21/10

[284] Dr. Babikar Abdalla, FPEW project regional coordinator, in an interview given to Nile-Flow, ENTRO's Newsletter, accessed at http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=117&Itemid=167 last accessed 12/21/10

[285] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=42&Itemid=129 last accessed 12/21/10

especially in Ethiopia and Sudan, to solve the existing problem of access to power.[286] In connection with power trade the other project is the *Ethiopia-Sudan Transmission Inter connection Project* that will facilitate cross border power trade between Ethiopia and Sudan, which in the future might also include Egypt.[287] These projects will have immense contribution in boosting economic activities in the basin states, by resolving power shortage issues, creating employment opportunities, providing a reliable and less costly source for the importing state(s) while creating an income to the exporting state.

Protection and preservation of water courses would not be successful if only focused on the waters in rivers, lakes or aquifers. Rather it is essential to include the entire fresh water ecosystem in protection and preservation programs.[288] It seems in line to this thinking that one of the IDEN projects developed focuses on *watershed management*. Sedimentation and soil erosion is already creating problems by decreasing the capacity of reservoirs, siltation of irrigation channels and causing damage to hydroelectric power infrastructures.[289]The watershed management project aims 'to improve standards of living of the population living within selected watersheds in the Eastern Nile region, decrease population pressures and increase land productivity so that sustainable livelihoods and land use practices can be secured for the target populations.'[290] According to the regional coordinator of the watershed management project, Dr Solomon Abate, it is in the best interest of the three East Nile Basin states to protect and enhance the shared watershed, because in the long term its condition determines the development outcome of each of them.[291]

The other project that will have a significant contribution in the protection and preservation of the water resource in the East Nile basin is the East Nile Planning model. The development objective of the ENPM Project is that countries in the Eastern Nile operationalise an improved decision support modeling framework to identify water-related investments and evaluate them in a regional context. The project is intended to strengthen the knowledge,

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[286] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=41&Itemid=127 last accessed 12/21/10

[287] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=40&Itemid=126 last accessed 12/21/10

[288] McCaffrey and Zuca, "Fresh Water Resources," 243-257 pp 253

[289] Hamad and El-Battahani, "Sudan and the Nile Basin," pp 31

[290] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=43&Itemid=129 last accessed 12/21/10

[291] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=70&Itemid=105 last accessed 12/21/10

modeling, and stakeholder interaction capacity of regional and national institutions to plan for water resources investments in a regional context, with appropriate regard to economic, environmental and social aspects.[292] Therefore it helps in the decision making process by providing information in advance on what kind of impact a project will have in a certain place and what kind of project suits which part of the basin.

The seventh project is the Baro-Akobo-Sobat Multipurpose Water Resources Development Study. The Baro-Akobo-Sobat sub basin is found between Ethiopia and Sudan.[293] This project Promotes social and economic development, enhancing food and energy security and reduction of rural poverty through sustainable management of the water resources of the sub basin.[294]

The three countries are also embarking up on an Eastern Nile Joint Multipurpose Program (JMP), the first of its kind in the region. 'The JMP is a long-term program which includes a coordinated set of investments and enabling institutional environment that facilitates the sustainable development and management of the Eastern Nile shared water resources to provide a range of transformational development benefits across sectors and countries.'[295] The immediate development objective of the first JMP (JMP1) is to undertake cooperative and sustainable development and management of the shared Blue Nile water resources.[296]

These projects will no doubt benefit the riparian states and many populations within by promoting the socio economic development of the region and protecting the watercourse and its ecosystem. However the pressing issue in the basin today and for many years in the past is the need to come up with an institutional and legal regime through which the use, protection and preservation of the waters of the Nile would be firmly established on well recognized principles of international water law. Under which all the rights and obligations of riparian states are stipulated. Without such move to establish the rights and obligations of the riparian states the

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[292] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=37&Itemid=124 last accessed 12/21/10

[293] For detail discussion of the sobat basin see Sutcliffe and Parks, The Hydrology of the Nile, pp 103-118

[294] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=39&Itemid=131 last accessed 12/21/10

[295] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=120&Itemid=167 last accessed 1/12/10

[296] http://ensap.nilebasin.org/index.php?option=com_content&task=view&id=80&Itemid=166 last accessed 1/12/10

success of bilateral and multilateral hydrological projects is less likely.[297] One major problem with the NBI is that it is merely a transitional mechanism that is not recognized as a river basin commission. This has significantly affected its potential to attract funds and also cooperate with other internationally recognized RBCs. If cooperation so fails riparian states would resort to unilateral developments which will inevitably lead to tension among basin states effectively closing the hope for cooperation which will have a negative impact on the protection and preservation of the water resource of the basin for both the present and the generations to come.

Cooperation in international watercourses is mainly steered through river basin commissions or organizations. River Commissions play significant role in the common management of international watercourses by coordinating research and monitoring efforts, providing to the basin states a platform for coordinating their policy and management, overseeing the implementation of plans and programs and serving as a forum to resolve river related international disputes.

For this reason the CFA has come up with a Nile River Basin Commission, which will be established to promote and facilitate the implementation of the principles, rights and obligations provided for in the Framework Agreement, to serve as an institutional framework for cooperation among Nile Basin States in the use, development, protection, conservation and management of the Nile River Basin and its waters, and to facilitate closer cooperation among the States and peoples of the Nile River Basin in the social, economic and cultural fields.[298] If effectively established the commission will play a priceless role in the sustainable development of the Nile.

The Nile River Basin Commission (NRBC) will have 5 organs which are the Conference of head of state and government, which is the supreme policy making organ of the commission,[299] Council of Ministers, which among other things is the responsible organ for the governance of the commission and oversees the effective implementation of the CFA,[300] Technical Advisory Committee, whose main function is to prepare for the consideration of the council cooperative programs for the integrated and sustainable management and development of the Nile River Basin,[301] Sectoral Advisory Committees,[302] and a Secretariat.[303]

[297] Arsano and Tamrat, "Ethiopia and the Eastern Nile," pp24
[298] CFA article 16
[299] CFA article 21
[300] CFA article 24
[301] CFA article 26
[302] CFA article 27

The NRBC will play a significant role in the effective implementation of the equitable and reasonable principle by establishing the rules and procedures essential for such implementation,[304] and serve as a means through which basin states will harmonize their policies for the protection and conservation of the Nile River Basin and its Ecosystem.[305] It further develops rules and procedures to facilitate information exchange on planned measures,[306] Environmental Impact Assessment,[307] regular exchange of information and data and serve as the channel to such exchange.[308] It will also come up with guidelines that guide basin states in executing their obligation to prevent and mitigate harm full conditions that might affect the other basin states.[309]

Therefore these developments will boost the capacity of the basin states to realize the utilization of the waters of the Nile in a manner that guarantees the provision of water for basic human needs and economic activities, and the conservation of the resource so that its availability both in terms of good quality and adequate quantity for the people in the basin will be realized.

4.3. The role of Third Parties: the World Bank

Several organizations and states have played significant role in assisting the Nile basin states' effort for cooperation and such support is still present.[310] The role played by the likes of the World Bank, UNDP and CIDA in coordinating cooperative activities in the basin as well as in assisting with facilitation, financing and communication is believed to have been successful while at the same time leaving the ownership of the process in the hands of the basin states.[311]

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[303] CFA article 30
[304] CFA article 4(6)
[305] CFA article 6
[306] CFA article 8
[307] CFA article 9
[308] CFA article 7
[309] CFA article 11
[310] World Bank, CIDA (Canadian International Development Agency) and the UNDP have been involved in the process since the beginning. This time around several international and bilateral institutions are showing interest to render financial support and are in fact supporting. http://go.worldbank.org/V0QNBV7WP0
[311] Amer, Arsano, El-Battahani, Hamad, Hefny and Tamrat, "Sustainable development and international cooperation," pp 12

The WB has played an important role in the formation of the NBI[312] by encouraging and facilitating further dialogue between the Nile riparian countries. Ethiopia's active participation in the NBI is motivated by, among other things, the interest of the World Bank and other organizations and well meaning governments. [313]

The bank's policy is built up on the international law obligation not to cause appreciable harm to other riparian. In defending severe criticism to this position Raj Krishna wrote;[314]

> "The bank policy could have been developed around the principle of equitable utilization also. The big hurdle here however is that for each project the bank will need to determine whether the particular use to be financed by it falls within the equitable utilization of the beneficiary state, further necessitating an analysis of what is equitable for other riparian a task the bank cannot accomplish without the agreement of other co riparian states as it is neither a court nor a tribunal."

Implying that only practical considerations and the considerations stemming from the characters of the bank as an international cooperative institution, determined this approach rather than the recognition of any alleged preeminence of the said obligation over the riparian's right to equitable utilization.[315]

The World Bank policy require any state, upstream or downstream, that wants to receive financial assistance to realize projects on international rivers has to produce evidence of consent by the other riparian states.[316] This consent can be acquired by informing basin states about the planed project by the state under taking such project. Many get the wrong idea that this policy favors downstream riparian states like Egypt forgetting the fact that downstream states can also cause harm to upstream states, as projects downstream might result in the foreclosure of their future uses of water, caused by the prior use, and the claiming of rights to such water by the downstream riparian states.[317] The Bank policy also states that cooperation and goodwill of all of

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[312] Metawie, "History of co-operation in the Nile," pp 52
[313] Arsano and Tamrat, "Ethiopia and the Eastern Nile," pp 20
[314] Krishna, Raj. "The Evolution and Context of the Bank Policy for Projects on International Waterways," 31-44, Pp 36
[315] Krishna, Raj. "The Evolution and Context of the Bank Policy for Projects on International Waterways," 31-44, Pp 43

[316] Arsano and Tamrat, "Ethiopia and the Eastern Nile," pp 20
[317] Salman, "the concept of foreclosure of future uses," pp 358

the riparian states is essential for the efficient utilization and protection of the waterway.[318] Since most of the Nile Basin states are economically weak and ill equipped to utilize their water resources, they will inevitably look to the assistance of such international financial institutions to carry out projects related to the waters of the Nile. Therefore, the existence of such preconditions will serve as an incentive in driving cooperation in the basin foreword.

This involvement of the World Bank and other similar organizations is not seen as positive by some, who rather consider it a neoliberalist challenge. In revealing the treat Okbazghi Yohannes wrote,[319]

> "…since the world water forum formalized the definition of water as a commodity in March 2000, thereby making it tradable like other commodities governed within the purview of WTO rules, global water corporations, fully supported by the WB and the IMF has offensively moved to complete the comodification process by acquiring management rights to public water services. The question of whether the Nile states can resist international pressure to accept the commodification and privatization of their water resource is something that they must address."

Despite such fear, since the policies of the world bank with regard to the financing of projects on international watercourses, developed in tandem with the development of the international legal norms in the area,[320] the polices will have their own contribution in realizing cooperation and joint management of internationally shared water resources.

However the availability of alternative sources for financing projects be it from domestic or external source will compromise the role the policies of the World Bank will play in forcing states in to cooperation just for the sake of financial assistance. The emergence of China as an alternative financial source that does not attach stringent requirements, unlike those of the World Bank, in providing financial assistance and the enhanced capacity of the basin states enables them to undertake unilateral development activities.[321] Such moves not only damage the relation between riparian states and create tension but also impair the sustainable management of the river as a whole.

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[318] Salman, "the concept of foreclosure of future uses," pp 358

[319] Yohannes, *Inter-Riparian Relations in the Nile Basin* pp 30-31

[320] Salman and Laurence Boisson de Chazournes, "International Watercourses: Enhancing Cooperation and Managing Conflict." 167-170 Pp 169

[321] Cascão, "Changing power relations in the Nile," pp 251

4.4. The Way Foreword: Challenges and Prospects

The Nile basin states have come a long way of cooperation for the sustainable development of the river Nile. However, it seems they have not reached at the end. Even though there are several projects and activities they are under taking at the basin level and through the SAPs they seem to be a long way out from landing the much sought institutional and legal frame work for the use, development, conservation and management of the Nile River. Here I will try to look in to some of the major challenges and prospects that may have a direct bearing in relation to the sustainable development of the river with in the East Nile Basin.

4.4.1. Challenges

- History of tension and instability: one major obstacle to the Nile Basin states in general and those in the East Nile, is the long existed tension among themselves regarding the use of the water resources and prevalence of stability within some of the states.
- Lack of Political Commitment: another challenge closely related to the existing tension is the lack of political will and commitment in the part of the basin states in reducing such tensions and work towards cooperation.
- Pre-existing agreements: the preexisting agreements in the basin, namely the 1929 and 1959, agreements present multiple challenges. For one thing these agreements do not recognize the right of all riparian states, but only that of Egypt's and Sudan's. In another way these agreements present an impassable hurdle to the use, protection and conservation of the waters of the Nile and its ecosystems, because they are way behind modern day water management and conservation concepts.
- The water security regime in the CFA: the CFA presents a great opportunity for the coordinated management of the Nile River across the basin. It sets out several principles of modern international law on watercourses providing a favorable environment for the sustainable development of the River. All basin states have reached on consensus on all most all provisions of the agreement except one concept-the concept of water security. The disagreement on the formation of the water security provision has been postponed to be resolved by the Nile River Commission which will be established by the agreement. This however has been a ground for the two downstream states in the East Nile

Basin for not signing the agreement. This situation if not resolved would have a significant negative implication on the relevance of the CFA, even if entered in to force, in resolving water use, preservation and conservation issues in the ENB. As most of the Nile water originates from Ethiopia and pass through Egypt and Sudan the cooperation of the three riparian states is imperative if the water resource is to be managed in a sustainable manner.

- Unilateral development activities: in the absence of a basin wide agreement pertaining to the use and development of the water resources of the Nile, each basin state will resort to unilateral development projects. This is a real possibility currently and most states are engaged in such activities due to the ever increasing demand for water resulting from population growth and the need to mitigate poverty. The implication of such activities in the region can be seen from different angles. Firstly unilateralism will lead to unsustainable use and exploitation of the water in un-integrated and un-coordinated manner. It might as well significantly affect relations among riparian states, which already is on the edge.
- Oprationalizing the Equitable and Reasonable principle: though the leading principle in international water law, putting this principle in to practice will have its own complications, as it require sophisticated human and institutional capacity and the development of detailed technical guidance to ensure its agreed implementation.
- Capacity: capacity in terms of skilled man power, available technology and financial capacity will present a formidable challenge, especially to Ethiopia and the Sudan, which in effect will have an implication on the basin wide water management
- Lack of agreement to utilize the river water through mutually beneficial projects, which would increase effective utilization of the water resources.

4.4.2. Prospects

- The continued involvement of the World Bank: the continued involvement of the World Bank as a potential financial assistance source in the basin will help in holding together the hope for cooperation. The involvement of the World Bank and other assisting institutions in the process since the establishment of the NBI has proved to be fruitful.

Therefore such presence will to some extent prevent unilateralism and therefore force the basin states to work together for the sustainable utilization of the resource,

- Achievements under the auspices of the NBI/ENSAP: though not yet effective with all the programs, the undertakings currently going on are demonstrations for the basin states that the Nile river is better managed in a sustainable manner when the concerned states cooperate,
- The CFA: all the basin states have agreed on all but one of the provisions of the agreement. And this agreement has recognized several principles of international water law that play an important role in the sustainable development of the river. This conviction of the parties, as expressed in the agreement, sends a positive massage about the future of cooperation in the basin. Further it also sends the message that the basin states are convinced of the need to utilize the water resources of the river in an equitable and reasonable manner, benefiting all and also at the same time protecting and conserving the water resource and its ecosystem. In addition if successfully implemented the NRBC to be established by the CFA will have irreplaceable role in the sustainable development of the river.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1. CONCLUSION

Water is one of the essential, if not the most essential, resources to sustain life on earth. Its uses in the social, economical and ecological aspects of life and nature make it so vital to the well being and development of humanity and other life in the ecosystem. This being the case more than one billion people still suffers from lack of access to basic drinking water and more than three billion people don't have access to basic sanitation. On top of this; extreme poverty, drought and food shortage all over the world are causing billions of people suffering. The water resource itself is endangered due to unsustainable utilization. In addition to these, the inequitable distribution/allocation of the resource is presenting a huge challenge to the management and utilization of the resource in some basins like the Nile River Basin. These challenges will even get worst given the rapidly growing population number especially in the most affected parts of the world. It is in recognition to this the U.N. Millennium Declaration of 2000 stated the aim "to halve by 2015 the proportion of people who are unable to reach, or to afford, safe drinking water" and "…to stop the unsustainable exploitation of water resources, by developing water management strategies at the regional, national and local levels, which promote both equitable access and adequate supplies."[322] This commitment was further restated in the WSSD Plan of Action and also the states vowed to halve the proportion of people who do not have access to basic sanitation by the year 2015.[323] The challenges can be met and the promises can be kept only when the conflicts and confrontations between countries, sectoral users and uses over the use of the resource are resolved. When it comes to the use of an international water course, the cooperation between riparian states will be essential to meet the urgent need for sustainable development.

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[322] UN Millennium declaration 2000, Resolution adopted by the General Assembly, available at http://www.un.org/millennium/declaration/ares552e.htm, para. 19 last visited 12/28/10,

[323] WSSD Plan of Implementation 2002 available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf, para 8, last visited 12/28/10

The Nile Basin in general is no exception to these problems and challenges. The river is shared among Ten African States of which most are among the worlds' poorest. The East Nile Basin is comprised of four riparian states, Ethiopia, Egypt, Sudan and Eritrea. The first three are the major actors in the basin. Of the three Sudan and Ethiopia are among the poorest in the world, affected by recurrent drought and food shortage that affect millions of their population every year. State relation among the basin states is characterized by more of confrontation than cooperation, due to the diversified interest they attach to the river Nile. Egypt considers it a source of national security, and regards any attempt upstream to utilize the water as a threat to its hegemony. This is mainly due to its dependence on the Nile for almost all its water needs. Sudan uses the waters of the Nile relatively better than Ethiopia, as per the agreement reached between itself and Egypt in 1959. Sudan is mainly interested in using the waters of the Nile for its developmental activities and to protect the people who live near the banks from floods, as it is affected by recurrent flooding, with which comes problems related to siltation and sedimentation that is rendering operation of hydroelectric power and irrigation difficult. While Ethiopia, where more than 85% of the river water originates, uses almost non from the gifts of the Nile. It is generally interested in using the waters of the Nile in its fight against poverty and to enhance long term economic development. To this effect it plans to utilize the water for small and large scale irrigation and hydroelectric power generation. While at the same time it sees Soil conservation and watershed management as important aspects of water resource development.

In their effort to resolve such confrontation and mitigate the challenges the riparian states have resorted to different cooperation forums involving states from the Nile basin as a whole. Among such forums a relatively successful one is the NBI, a transitional forum that was launched in 1999 which in general aimed at facilitating the sustainable development of the river Nile for the benefit of all. The initiative has facilitated the realization of certain decisions at the basin and subsidiary level, through the SVP and SAP. The ENSAP has come up with a regional multi-purpose development investment program, the Integrated Development of the East Nile (IDEN) that is comprised of seven projects. They have also embarked up on a joint multipurpose program, which in the long term is aimed at cooperative and sustainable development and management of the shared Nile water resources in the East Nile Basin.

These projects, though not an ultimate solution for the long lived controversy in the basin, will serve as building blocks for cooperation and confidence building in the region while

in the meantime playing certain roles in the cooperative management and utilization of the waters of the Nile in the East Nile Basin.

Hand in hand with cooperation on such projects the basin states underwent negotiations for a new legal and institutional set up in the basin. From the very beginning the riparian states held contradicting positions with regard to the position of a new legal regime with the already existing ones. The downstream states called for a framework that takes the existing agreement as an integral part of it. While the upstream states held the position that a new framework should disregard such previous agreements to which they are not party. The downstream states, Sudan and Egypt, heavily rely on agreements entered between the two in 1929 and 1959 to ascertain their claim to established rights. These agreements do not recognize the right of the rest of the riparian states over the water. The agreements not only disregard the right of the other basin states but also are not up to date with the requirements of modern international law applicable to the use and management of international watercourses, and hence an obstacle for the sustainable development of the resource of the Nile. Therefore the utilization of the Nile in a manner that takes in to consideration the social and economic needs of the riparian states as well as the need to conserve the water resource and its ecosystem needs a legal and institutional system that is all inclusive and comprehensive.

Developments in international environmental law and international watercourses law, and the change in the socio-economic and political aspects of the basin states has necessitated a change to the existing manner of water allocation and management in the Nile Basin in general and East Nile Basin specifically. International water law as it stands today adopts the principle of equitable and reasonable utilization as the main substantive principle governing the use and management of international watercourses. This principle aided by procedural rules, which emanate from the general obligation to cooperate, such as the rule of prior notification, consultation with riparian states and exchange of data and information on a regular basis, will help achieve the sustainable development of an international watercourse. This can be realized under a legal regime that recognizes these principles and under an institutional mechanism/river commission that facilitates riparian relation and cooperation.

It is in recognition to this the Nile riparian states, with the exception of Eritrea who chose to remain as observer, has been negotiating for a decade to come up with a framework agreement which was opened for signature in May 2010. This agreement has recognized the substantive

principles of equitable and reasonable utilization and the no harm rule, in the same manner as the UN convention does. Also several procedural principles that would prove to be essential for the optimal and sustainable utilization of the waters of the Nile and protection of its ecosystem are included in the framework agreement. The CFA will also establish an institution when entered in force - the Nile River Basin Commission - that will serve as an institutional framework for cooperation among Nile Basin States in the use, development, protection, conservation and management of the Nile River.

The CFA needs to be signed and ratified by six states to come in to force. Five riparian states; Ethiopia, Tanzania, Uganda, Rwanda and Kenya, have already signed the agreement. Egypt and Sudan opposed against the idea of opening the CFA for signature before the disagreement regarding the "water security" clause in the agreement is settled. Therefore the two East Nile Basin states refused to sign the agreement and might as well not sign the agreement at least in the near future. Though their refusal to sign does not hinder it from entering in to force, as long as there are six ratifications, it will significantly affect the importance and the role the agreement will have in the East Nile Basin. In the absence of such cooperative forum riparian states will resort to unilateral projects to meet demands within their respective countries. This will lead to uncoordinated and unsustainable use of the water resource as relations between the states might be stained. This will not only affect present management of the resource but also might erode confidence among the basin states making future cooperation even more difficult pulling them to the extreme positions relying on their sovereign right to use the water within their territory.

5.2. RECOMMENDATION

The East Nile Basin states will exploit the water resources of the Nile in order to meet their development needs and to provide water for a demand that will continue to grow with the growing population within their respective countries. In so doing however it should also be recognized that the water resource is finite, and could further be affected due to unsustainable use, mismanagement, pollution, climate change and other factors. To avert such challenges the basin states need to work together to develop the resource to the benefit of all in a manner that does not jeopardize the potential of the generations to come to use the water of the Nile. This however could not be achieved in a situation where some of the basin states are the at most beneficiaries of the gifts of the river, while poverty, drought and food shortage lingers in other riparian states. Therefore the states need to set aside their differences and work together for their common good, as they could only enjoy the fruits of the river for a period not too long if they continue to exploit the resource in un-integrated and abusive manner. In order to utilize the resource for their common benefit and to sustain its use for the future the basin states should:

- More than anything else, accept that each and every riparian has a right to benefit from the fruits of the river and the obligation to protect the same, on the basis of the principles of equitable and reasonable utilization and the no harm rule, as envisaged under the UN Convention and the CFA,
- Realize that the sustainable use of an international river such as the Nile cannot be achieved unless they resort to a basin wide approach, where exchange of information and data regarding current measures, information on the condition of the water resource, consultation regarding planned measures, and cooperation in cases of emergency play a significant role. Therefore it is important if the basin states acknowledge this and act in such a way,
- Work together to enhance the technical capacity within each country through cooperation,
- Accept the relevance of EIA of projects at the earliest possible time as this will help to integrate environmental concerns in development related decisions, therefore enhancing the goals of sustainable development, and also enable the concerned state/states to make changes to projects if the result of the assessment so warrants,

- Work towards improving their relation in order to create a peaceful environment that would be conducive for cooperation amongst themselves in order to realize the equitable utilization of the river Nile and the protection of the resource,
- Further strengthen the IDEN projects under the aegis of the NBI/ENSAP specially those that are relevant to the protection of the water resource and those that accrue economic benefit to the basin states,
- In line with strengthening the efforts under the ENSAP, they also should strive to reduce the possibility of unilateral development as it, not only make basin wide management of the river difficult but also present a challenge to the ongoing cooperation efforts,
- Resort to a permanent basin wide commission, through which they could realize the integrated and cooperative management of the river Nile, and
- Recognize that the 1959 agreement currently effective between Egypt and the Sudan is in no way capable of realizing a basin wide management and utilization of the river Nile, and therefore come up with a new all inclusive and comprehensive agreement that both recognize the right of all riparian states and provide the essential principles for the sustainable development of the river Nile. This is readily available in the recent CFA, the implementation of which will play a significant role in realizing the optimal and sustainable utilization of the waters of the Nile

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